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JULY

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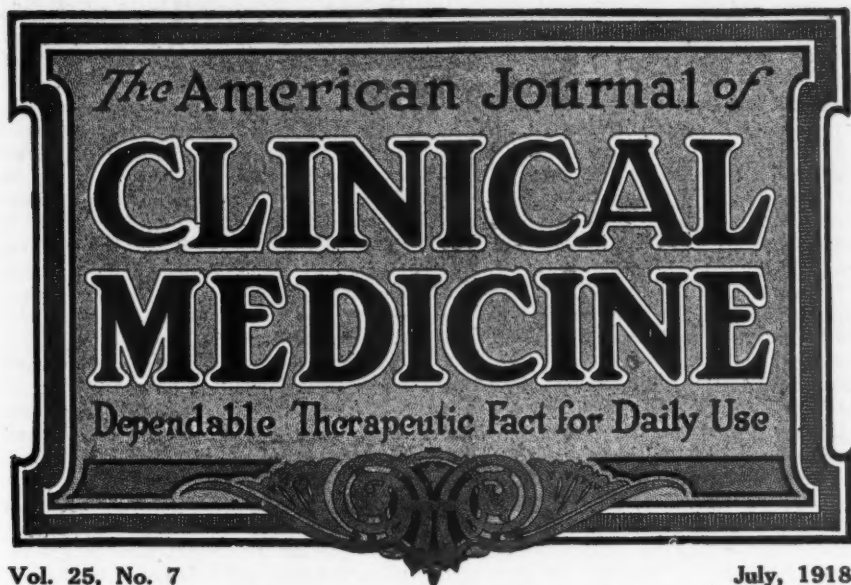
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Endocarditis—What's Back of It?

DOCTOR GOLDSTEIN'S article in the February number, page 121, is one that well illustrates the value of the researches concerning rheumatism that have been made during the past ten or twelve years. His patients exhibited the ordinary sequence—tonsillitis, chorea, rheumatism, endocarditis. But, while we recognize this as an ordinary sequence, the profession does not as yet appear to be sufficiently aroused to the importance of starting treatment promptly upon the appearance of the first member of the series. For, if we begin by curing the tonsillitis, the chain is broken. We may go a step further and say that, if we cure the sore throat in its incipency, there will be no tonsillitis; and, the malady begins with sore throat. Owing to exposure to cold and wet, fatigue, privation, missing of regular meals, partaking of alcohol to excess, or subjection to any other excess by which vitality is depressed to a certain point, swarms of microorganisms are afforded the opportunity to find lodgment in the mucous membrane of the throat.

Then is the time for most efficient intervention. Don't wait until the disease-

producers have penetrated into the substance of the gland and entrenched themselves; dug in, in fact, too deeply to be affected by topical applications. When the first burning and other irritation of any of the nasal or pharyngeal surfaces are experienced, apply promptly and effectively an antiseptic. Of course, we have our preference, and this is for chlorazene, although we have also succeeded with other antiseptic agents before the discovery of the former. At any rate, a few such applications, an hour or two apart, will, in the vast majority of cases, stop the attack in the earlier stages. Even in inveterate rheumatic cases, where patients had been subjected to repeated attacks of this sort, success has been secured by supplying the patient with the antiseptic agent and instructing him to use it at the first evidence of faucial irritation.

This has a bearing also upon the recent views regarding the role played by focal infection in the occurrence of endocarditis as well as of other febrile diseases of bacterial origin. A person with a focal infection localized, say, in the tonsils, not only

is liable to be himself subject to various ailments and disabilities, but, he also is a carrier and may endanger the health of those with whom he comes in intimate contact. Here is, therefore, an additional reason for persistent treatment of tonsillitis, even though it be not in an active stage.

Another point is suggested in Doctor Goldstein's cases, and that is, that the modern remedies for rheumatism are not always as successful in preventing endocarditis as was Fullers' old alkaline treatment.

For some years, we used formaldehyde as an antiseptic, but, have recently learned to look upon it with strong suspicion and would, certainly, not recommend it as a household remedy. The latter should be both effective and harmless, and for this reason we would strongly recommend the popularization of the new antiseptic.

For the treatment of carriers, we should prescribe a spray of chlorazene of the strength of 1 in 1000, used at least every three hours during the waking period and as much oftener as possible. Morning and evening, apply, with a nebulizer, a 1-percent solution of dichloramine-T in chlorcosane. If these remedies are kept in the house, with the understanding that they be employed as soon as any sign of nasal or pharyngeal irritation is manifested, a very great deal of sickness can be prevented. Besides this, every mother should be taught to take a look at her children's throat, morning and evening, especially if throat-affections are prevalent, and to call in the physician if a manifest irritation does not yield promptly to the simple treatments that she can apply.

Life is full of golden opportunities for doing what we do not want to do.

UNIVERSAL MILITARY TRAINING

Just now, of course, we all feel quite certain that we shall never again be caught napping in the face of a great national crisis, as we were in this one; just as everybody who is caught in a thundershower vows that he will never again go out without an umbrella. But, the truth is that, as soon as the sun comes out again and the sky is bright overhead and the ground is dry underfoot, everybody forgets there ever was such a thing as a storm and with cheerful thoughtlessness takes a chance on the

next downpour. And, by the same token, this same everybody will drop back into the old state of happy-go-lucky complacency about the national safety as soon as the present war is over, unless someone makes it his special and persistent business to keep the spirit of preparedness alive and sees to it that some powerful machinery is set in motion to enforce its application.

We think we won't, now; while the disaster which our carelessness precipitated is still upon us. But, there will come a time when the burden will be lifted and in our thoughts and talk and activities thrice-welcome peace will take the place of hideous war, and then, in our great relief, we shall wipe the sweat from our brow and take a long breath and say: "Whew! Thank heaven, that nightmare is over! Now let's forget about such things as war, and take a rest and enjoy life for a while!" That's human nature.

It would be a thousand pities if such were to be the end of the tragic lesson which the last few years have taught us. But, we repeat, if this is not to be the end—if the principle of national preparedness is to survive the period of reaction that is certain to follow the declaration of peace—there must be a concerted and persistent propaganda on the part of those who think and see a little farther ahead than the crowd. To this far-thinking, far-seeing group, the medical profession surely belongs. Of all men, the doctor understands the prevalence and the danger of this spirit of false security and the necessity for a continual, unremitting provision against it. In medicine, we call it prophylaxis; in nationalism, preparedness. It is the same thing. To the doctor, then, of all men, the nation looks for positive, aggressive promotion of universal military training.

Moreover, this matter is peculiarly the concern of the medical man just as economic preparedness is peculiarly the affair of the banker and financier. True the prime argument for universal military training is the argument of preparedness itself. But, aside from this aspect, it has an enormous value which nobody is better able to appreciate than the doctor; of which we are having a most striking object lesson at the present time, and to which the doctor, better than any other class of men, can give point and force. Nobody has had such opportunity as he has had to observe the physical improvement and moral de-

velopment of the young men who have recently been placed under military training. To him, this has a much further-reaching significance than the sheer phenomenon itself, important as that is. To him, it suggests the searching reflection: Suppose that this kind of influence were extended into the lives of *all* the young men in the country, in every generation, what effect would it have upon the physical and moral stamina of the nation? And the answer is: Tremendous. This consideration alone makes the application of universal military training enormously worth while and is enough to enlist the active support of the medical profession in its promotion.

There are, of course, other arguments for its adoption. In fact, it may be said that there is every reason in favor of such a movement, and absolutely no valid reason against it. The only arguments which are advanced against it—the danger of the growth of militarism in our midst, the possible creation of a caste—are found upon earnest examination to be based upon conditions that do not inhere in the principle and practice of military training at all, but, in conditions that do not obtain in this democracy. They are, in fact, discounted in advance by the outstanding fact, before our very eyes, that the most complete system of universal military training in the world has for many years been the possession of the most democratic people in the world, the Swiss. We do not imagine that the doctor really needs the question to be argued to him at all. The medical profession, as a whole is already fully persuaded of the indisputable value of universal military training. What we wish to do here is, to urge our readers to take an active part in spreading the movement abroad among those to whom its value and its necessity are not so clear. In this, as in other matters pertaining to physical welfare, the public looks to the doctor for counsel. His word carries great weight. Let your voice be heard, doctor in no uncertain tone in favor of this important movement.

MALARIAL ANEMIA

The bringing of thousands of her colonial troops to Europe has been found in France to reintroduce certain malarial conditions that had long ago become extinct. In the treatment of these conditions, quite a dif-

ference has developed in the methods employed by various French physicians. Some administer quinine only when the microbiological examination is positive; others count upon the regular intermittence of the paroxysms or the occurrence of febrile manifestations, or carry quinine systematically for a prolonged saturation. The latter method is preferred by a writer in *Le Monde Médical*. The quinine salt generally used is the chlorhydrate, in doses of 2 Grams once in twenty-four hours. To this, however, is added the use of arsenic, so that our French colleagues are rapidly approaching the adoption of quinine arsenate. In grave acute cases, the administrations are made intravenously. Arsenic is employed in the form of the cacodylate of sodium injected deeply into the muscles of the thigh.

When we get what we want, we are always disappointed to find that it is not what we wanted.

SURGEON-GENERAL GORGAS IS SIXTY-THREE YEARS YOUNG

An editorial in *The Southern Medical Journal* for May refers to the fact that Surgeon-General Gorgas will reach the retiring age of sixty-four on October 3; which, though, does not mean that General Gorgas will be retired on that date, because no one would consider retiring a man who every day is demonstrating his youth and efficiency in a position of such great responsibility as that of surgeon-general of the United States Army during the greatest war in the history of the world.

Those who are in a position to know, regard General Gorgas as second in efficiency only to President Wilson; and they marvel at the work he has accomplished in the past year. Only a young man in vigorous health could have lived through what the General has done since the war began.

Years ago, General Gorgas demonstrated that the white man can live, thrive, and accomplish as much in the tropics as in colder climates, if malaria and other tropical diseases have been eradicated. Now some are believing that he discovered somewhere on the isthmus of Panama the fountain of youth that Ponce de Leon sought in vain in the sixteenth century.

General Gorgas is engaged in the "small" undertaking of keeping a million and a half boys and young men from catch-

ing measles, pneumonia, and some diseases that do not affect the respiratory organs, that afflict those who have not learned how to take care of themselves—and he is doing both jobs better than any man before him ever did. If one knows of the regular life and simple and abstemious habits of General Gorgas, he can understand how at sixty-three years he is younger than many men at forty. If all the soldiers lived the hygienic life that he follows the sickness and the death rate in the army would be negligible; although it should not be forgotten that the morbidity and mortality rates among our troops are less than half those in the Spanish-American War and are lower than those of any other army that ever was gotten together.

Aside from the fact that there is no one who could so ably take the place of General Gorgas as surgeon-general, the United States and the world owe him such a debt of gratitude that he could not be retired until his labors during the present war have been completed. His conquests over disease have been more brilliant and epoch-making than those of any general who has fought battles against man. Gorgas has brought health and happiness to millions, while wars against man have made countless thousands mourn.

Since President Wilson holds justice and efficiency in such high esteem, there can be no doubt of the reappointment of Surgeon-General Gorgas when his term expires or when he comes to the age of retirement. If the president has not the legal right to appoint a retired officer as surgeon-general, congress will enact a law giving him that privilege. Our country as well as the whole world need General Gorgas too much for his retirement to be considered until we and our allies have conquered the Huns.

Our own weaknesses we regard as misfortunes from which we cannot escape; the weaknesses of others we consider crimes.

THE LIBERTY LOANS.

One of the curious phenomena connected with the raising of the Liberty Loans is, the comparatively limited number of our population who actually take part in them. Of course, we must remember that, when a man subscribes for a bond, he may be looked upon as subscribing for his family as well as himself, which multiplies the

number of actual subscribers by from three to five times. Nevertheless, it is certain that there is a large number of individuals who might take a share in this work, but, do not do so. Much of this is due to thoughtlessness; for indeed, many of us are not yet awake to the fact that our country is participating in the greatest war of all times. We have ranked against us such an array of military genius as the world has never seen, even in the days of Napoleon. Neither the great military machine built up by that wonderful man nor that perfected under the Roman republic and empire compares with that we are facing.

One of the things we do not yet realize is, the value of concerted action. If everyone who could just as well buy a bond, but, does not do so, if every person who might just as well invest in war-savings stamps, but, does not do so, were to do a little, the aggregate would be enormous. Moreover, these bonds form the financial backbone of our civilization; something that many persons are slow to realize. For instance a savings bank allows five percent on certificates of deposit. This is only a little more than the bonds yield us; and if the bonds should depreciate through the success of the Germans what would our savings-bank deposits be worth?!

Another thing that people do not remember sufficiently is this, that, while many of the munition enterprises afford large profits, we surely can afford first to buy liberty bonds and base upon them the loans with which to buy munitions stocks. We thus divide, and not unfairly, with the government the large profits coming from the war itself. But, many a man has a little money salted down in the bank. Many a woman carries in her stocking enough money to buy a bond or at least a few savings stamps, which might a great deal better be put into the securities of our country; and would be, if the owner realized the importance of it. A great many think that their individual contribution is too small to weigh, but, it is the combination of many small sums that make the huge aggregate necessary to carry on modern war.

Now, my suggestion is this, that each one of us make it his business to talk this matter over with each one of his patients consulting him. Come to think of it, the doc-

tors in the United States number among their patients collectively almost every human being in the United States; so, if the entire medical profession would start to use its influence in this matter, the aggregate would be incalculable. I am firmly convinced that it is the quiet, personal conversation which we have with our friends that is of the greatest benefit in this matter. We are not, as a people, emotional. We do not want to be carried off our feet by the whoop of patriotic fervor that leads us to do things which we later regret. As a race, our tendency is, rather, to sit down quietly and consider personal matters from the standpoint of duty. For this reason, all of this hurrah business is personally distasteful to very many of us. We want to realize a duty and to do it rather than to be led into making investments that we later must condemn.

THE ANXIOUS DEAD

Oh guns, fall silent till the dead men hear
Above their heads the legions pressing on.
(These fought their fight in time of bitter
fear

And died, not knowing how the day had
gone.)

Oh, flashing muzzles, pause and let them
see

The coming dawn that streaks the day
afar:

Then let your mighty chorus witness be
To them, and Caesar, that we still make
war.

Tell them, Oh guns, that we have heard
their call,

That we have sworn, and will not turn
aside,

That we will onward, till we win or fall,
That we will keep the faith for which
they died.

Bid them be patient, and some day, anon,
They shall feel earth enwrapped in silence
deep,

Shall greet, in wonderment, the quiet dawn,
And in content may turn them to their
sleep.

The poem here printed was written by Lt.-Col. John McCrae, of the Canadian Medical Service, who died in France from pneumonia, complicated by meningitis, on January 28 last. Colonel McCrae is the author of that other poem—which already has become a classic—"In Flanders Fields," of which the first stanza runs as follows:

"In Flanders fields, the poppies blow
Between the crosses, row on row.
That marks our place; and in the sky

The larks, still bravely singing, fly,
Scarce heard amid the guns below."

He received his medical education at Toronto and held an internship in the Johns Hopkins Hospital. For a number of years, he was professor of pathology at the University of Vermont, but, during the later years of his life, prior to the war, he held the dual position of lecturer in pathology and also in medicine at the McGill University Medical School. At the outbreak of the war he had just arrived in London. He immediately cabled to Canada, offering his services and was appointed surgeon to the first brigade of Canadian artillery. He was with the guns along the Ypres sector for a continuous period of fourteen months, and, as an article in *The American Journal of Medical Science* states, he was "in the thick of the engagements where the Canadian forces made an undying name for valor."

His poem, "In Flanders Fields" is one of the great spiritual contributions to the literature of the war. "The Anxious Dead," which we are printing, was his last poem. It was published in *The London Spectator*, in 1917, and by many was regarded as an answer to "In Flanders Fields."

We are quite able, while hating sin, to pity and be charitable to the sinner—when we happen to be the sinner concerned.

A WOMEN'S NUMBER OF "CLINICAL MEDICINE."

We are planning to devote the September issue of *CLINICAL MEDICINE* to the women of our country and of the allied countries. It is intended to collect information concerning the work done by women during this war; not only in the many Red Cross activities and in the nursing field but, also, in the various industrial and manufacturing fields, wherever women have taken the part of the men that have gone to the front. But, not only this. We want to hear, particularly, from the doctors' wives that are left behind, whose husbands are serving their country in camp, in base hospitals, at the front or wherever they have been placed. To the wives at home, it falls to educate the children, to keep up the home toward the return of the father and husband, to "manage" so that the doctor, absent on duty, need not fret and worry, knowing that the wife is doing her

share at home, even as he is doing his in the war.

Let us hear from you, you doctors' wives that are left behind. We give you thus early notice, so that you may have ample time to write us. Tell us what you are doing and how you are managing while the doctor is away. What are you telling the children? What time do you find for interests and work outside of the home?

The devil is not as black as he is painted. In fact, he is more like us than we care to admit.

THE MEDICINE-CHEST OF THE ARMY

Physicians who have entered the military service, through having accepted commissions in the Medical-Officers Reserve Corps, naturally encounter many things and conditions that are strange and different and to which sometimes they find it difficult to become accustomed. While the surgical part of the work is developed to a high degree and every opportunity is afforded for the best and most advanced training of operators, certain phases of the duties of internists seem to be regulated by ideas that are almost medieval in their obsolete character. Thus, for instance, one medical man, at present in camp, writes as follows:

"Army medicine, as I see it practiced, and the material furnished give no chance whatever to use progressive or active therapy. . . . One could hardly imagine a man trying to blubb along in private practice with the poor assortment of medicines supplied us." The only active principles which he recalls seeing on any infirmarieshelf are, quinine, strychnine, morphine, atropine, and cocaine; in addition to which, there are tablets of tincture of digitalis and of apomorphine. But—all these, with the exception of quinine, are kept under lock and key and allowed to be used only on prescription by way of the major's office and with his O. K. The things provided for use for almost every illness are synthetic salicylates (acetylsalicylic acid, sodium salicylate), potassium bromide, potassium iodide, chloral hydrate, compound licorice powder, compound aloin pills, calomel, epsom salt, pseudo castor-oil, oil of turpentine.

This doctor complains that, with so many standbys left out, a physician accustomed

to using positive and definite remedies is deprived of his best and most successful weapons. "There is absolutely no use reminding oneself of the many useful things employed in civil life. Your thinking is done for you. Your ingenuity is not wanted. Your favorite methods are unavailable and more than likely would be forbidden. One must do everything just so and so, per manual of the medical department, or a bawling-out will come. . . . I am thoroughly discouraged with the therapeutic side of military medicine. It is far below what the remotest man could do with proper remedies. There is no incentive to learn more or to keep up to date."

Of course, we are aware that the government is buying really enormous quantities of drugs, but, the special predilection of those having charge of the ordering seems to be for compound cathartic pills and quinine sulphate.

We trust that our correspondent's particular complaint is tintured a deeper blue than is quite warranted by the facts; and, also, that conditions which he describes are only local. It would be of serious import if the medical officers of the army, as well as of the National Army and the National Guards, were to be hampered in the care of their sick by insufficient supplies (in quantity as well as in variety) that are needed for correcting certain abnormal processes and by means of which the sick soldiers might be restored to health more promptly than if Dame Nature were allowed to do the job, herself. Certainly, the medical officers of the army should not neglect the remedies needed in internal medicine, but, should pay as careful attention to this part of the work as is devoted to the surgical requirements.

DR. RICHARD SLEE.

Like every other patriotic and anxious American, we scan the columns of the newspapers these days for the names of friends. We are beginning to see too many of these names in the list of "casualties," but, intermingled with the bad news, we frequently find good news, also. For instance, we have just seen the notice of the promotion of our dear friend and colleague Dr. Richard Slee to the command of Camp Crane, the American ambulance cantonment, which is situated at

Allentown, Pennsylvania. Colonel Persons, who has been at the head of this camp since its establishment soon after the beginning of the war, has been sent to France and Major Slee succeeds him.

Rarely have we seen an announcement that has given us as much satisfaction and as much pride, for, Major Slee is one of us. For several years he has been a member of the editorial staff of *THE AMERICAN JOURNAL OF CLINICAL MEDICINE*, and we know him well and love him. Understanding his wonderful energy, his rare ability as a military organizer, his patriotism and devotion, it is not difficult to see why he has been placed at the head of the great training organization at Allentown.

Like thousands of other good Americans, Doctor Slee has made great sacrifices in entering military service. At the beginning of the war, he was conducting a biological laboratory at Swiftwater, Pennsylvania, where he had a beautiful home in the Pocono Mountains. His business was managed jointly by himself and his son Arthur. When war broke out, he immediately offered his services. At that time, he ranked as a first lieutenant in the Medical Reserve Corps. He was sent at once to Allentown, and under the able direction of Colonel Persons he assisted in the organization of this wonderful camp, which is devoted to the instruction and training of men for the ambulance-service. He was made major and put in charge of the camp's sanitation, besides being given other important duties.

Meantime, his son Arthur also was given a commission, and on account of his special training was allotted duties of a similar character. We understand that Lieutenant Slee is going to France with Colonel Persons. The absence of these two men involved the shutting down of the Slee Laboratories, and, of course, meant great financial loss to its owners.

Doctor Slee made good from the very start, and, we are informed, has been immensely popular with the men under his charge, many of whom already are exemplifying the best traits of American manhood on the bloody fields of Picardy; for, the men in the ambulance service were the first to go.

Camp Crane has under training at times as high as 5,000 men. The command is one which, under ordinary conditions,

would be presided over by a brigadier-general. The task is one involving, not only all the abilities of organization and administration, but, also requiring technical knowledge of a high order. Major Slee has met these difficult conditions. The writer has been to Allentown and seen his work, talked with his friends and knows what is being done. It is for the reason that we predict that Major Slee will go higher. Our congratulations!

A man often envies another man his physical qualities—rarely his mental. As we have no soul mirror we cannot see the reflection of our spiritual deformities.

WEIGH THE BABY

The Child Welfare Department of the Women's Committee of the Council of National Defense sends out a request for the weighing and measuring of American children under five years of age. This is a matter of the utmost importance. It is the first feature of the Children's Year, beginning in April. The plans include activities designed to save the lives of a hundred thousand children during the coming year. Many of the physical defects that caused the rejection of so many men examined for the first draft are believed to date from slight troubles neglect in early childhood. This is a matter in which every physician individually is interested and we hope there will be a very general response to the appeal.

THE RANK OF MEDICAL OFFICERS

There is now before congress a bill providing for a larger number of general officers and officers of lower grades, in proportion to the active strength of the medical corps of the United States Army, the National Army, and so on, than is permissible under the present law. Today, all medical officers serving in the army are under the jurisdiction of the surgeon-general, who is the only general officer in the medical corps. While for medical men in the medical service of the United States Army promotion to lieutenant-colonel and colonel is possible, the members of the Medical Reserve Corps can, under present conditions, not rise to higher ranks than that of major.

The consequence is that many men now serving as members of the Medical Reserve Corps, although physicians and surgeons of

wide reputation, are subordinate to line officers, to whom, therefore, they cannot present their recommendations for the good of the service with sufficient force and authority to lend them strength. Such recommendations are very prone to be neglected and overlooked, similarly as occurred all too often during the Spanish War when certain line officers not only endangered the health of the troops, but, actually caused the occurrence of much preventable contagious disease and many deaths by their opinionated refusal to pay heed to the recommendations of the medical officers in their commands. The story of this sad chapter, as told in the Dodge Report, is not pleasant reading and many attempts have been made, especially by the American Defence Society and through it by Dr. Louis Livingston Seaman, late surgeon-major of the U. S. Volunteer Engineers, to improve existing conditions and to remove the possibility of danger arising through the same causes.

The bills presented to congress by Senator Owen and Representative Dyer, which are identical in purpose, provide for a greater number of general officers; namely, with the present enrollment of fifteen thousand officers in the medical corps, there would be thirty-seven major-generals and the same number of brigadier-generals, six hundred colonels, twelve hundred lieutenant colonels, and those of lower ranks in proportion. At the same time, the medical corps would receive representation at the general-staff meetings, and, altogether, it would be endowed with an authority as to rank that would make its work much more effective, since it would give the support of rank to the recommendations of its members.

Incidentally and—although the point is not a primary purpose of the bill—the opportunity to attain to positions of higher rank in the service would carry with it improved financial position for the medical men serving in the army; and this really is not a negligible consideration.

Many medical men there are who have joined the Medical Reserve Corps and are giving their best services to their country, without complaint, although they have given up lucrative positions and incomes that are far higher than those accruing to them as members of the Medical-Reserve Corps. It is only just that members of

the army, whose work is of such tremendous importance for the health and welfare of the soldiers as is that of physicians, not only should have commensurate authority of rank, but, with it also, corresponding financial returns in the way of improved pay.

We urge all physicians to write to their senators and congressmen, requesting them to support the Owen-Dyer Bills and to secure their passage as calculated to work for the best interest and welfare of the army. Furthermore, physicians should interest their clients and their friends in this matter and induce them to write to their representatives in congress, both in the senate and in the house of representatives.

Rotten apples are the easiest to find; so, worthless friendships are the easiest to form.

THE FRAMINGHAM EXPERIMENT

A few years ago, it was suggested by the Metropolitan Life Insurance Company that an intensive experiment be made in the United States, to determine whether it is possible substantially to reduce the mortality of tuberculosis, in the hope that the disease may eventually be eradicated.

For this purpose, the Metropolitan Life Insurance Company offered to place at the disposal of the National Association for the Study and Prevention of Tuberculosis the sum of \$100,000, in order to conduct a community experiment over a period of three years in the control of tuberculosis.

After many preliminaries, which it is not necessary to detail in this place, the National Committee and an executive staff were appointed, and Framingham, a town in eastern Massachusetts having a population of approximately 16,000 people, was selected as a suitable community for this purpose. It recommended itself as an average community, with mixed industries, varied racial groups, a good local health organization, linked with an excellent state department of health, a normal percentage of disease, particularly of tuberculosis, well-trained physicians, good hospitals, and a sufficient promise of cooperation from medical, industrial, commercial, and social organizations to give reasonable assurance of success.

The Framingham Community Health and Tuberculosis Demonstration was initiated in December, 1916, and has, therefore, been

in actual operation for a little over one year. The foundation having been laid, the work is proceeding satisfactorily.

During the first year, the main objectives were: the thorough medical examination of a substantial proportion of the population, the discovery of cases of tuberculosis, and the lending of assistance to the community in the development of its program of organization to meet its own health obligation.

Concerning the program of this community experiment and work accomplished during the first year, the Community Health Station, at Framingham, Massachusetts, has just published the "Framingham Monograph No. 1"—an interesting pamphlet of twenty-four pages, and the first of its publications. Several series of publications are planned, all of which promise to be highly interesting, on account of the unique nature of the experiment being conducted in Framingham, and it is to be hoped that this undertaking not only will be carried out to the fruition of definite results but, that the lessons to be learned from it may find general application and appreciation.

Nothing is so depressing as remorse. Nothing is more weakening to the moral fiber than good resolutions that are likely to be broken.

THE REPORTING OF VENEREAL DISEASES.

A few months ago, the Chicago city council passed an ordinance amending the code concerning the reports of cases of communicable diseases to the department of health, according to which the venereal diseases—namely syphilis, gonorrhea and chancroid—are defined and declared to be contagious, infectious, communicable, and dangerous to the public health.

This action of the city council is one that irrespective of many difficulties and objections has been taken with a proper regard to the rights of the community. Although the harm to innocent persons—men and women and particularly children—that has been done through the carelessness of patients afflicted with these diseases (owing to conditions in the past, when physicians failed to recognize their true seriousness and to impress it upon the patients) is enormous and, in fact, can hardly be calculated, it is a token of better things to come that the authorities all over

the civilized world have awakened to the seriousness of the venereal problem. It is a point of even better promise that the people themselves have become conscious of the danger lurking in this social cesspool, that they are beginning to insist that this source and cause of racial degeneration shall be dealt with frankly and fully.

The spread of communicable diseases can be restrained and their transference to others be avoided only by means of proper precautions on the part of the patient, and through authorization of health-officers, whereby the latter can insist upon and enforce the same. It is for this reason that city ordinances like the one referred to should be enacted all over the country, not only in cities, but, also in country towns; and should be enforced.

The department of health of the city of Chicago has published, for distribution among physicians and others interested, a circular of information, which contains the full text of the ordinance in question and also provides complete instruction for patients having syphilis, gonorrhea or chancroid, informing them of the nature of these diseases, pointing out the absolute necessity of effective treatment, and instructing them in the precautions that are to be taken in order to protect those with whom they come in contact. This circular of information may be obtained by application to the Department of Health, Chicago, Illinois.

CHICAGO ORDINANCE ON REPORTING VENEREAL DISEASES.

In another editorial, we have referred to the ordinance passed by the city council of Chicago, requiring the reporting of venereal diseases. The ordinance in question is of wide interest and it may be well to publish it in this place. The ordinance is as follows:

"It shall be the duty of every licensed physician, of every superintendent or manager of a hospital or dispensary and of every person who gives treatment for a venereal disease to mail to the department of health of the city of Chicago a card supplied by this department, stating the age, color, sex, marital condition, and occupation of such diseased person, the nature and previous duration of such disease, and the probable origin; such card to be mailed within three days after the first examina-

tion of such diseased person; provided that, except as hereinafter required, the name and address of such diseased person shall not be reported to the department.

"It shall be the duty of every licensed physician and of every other person who treats a person afflicted with venereal disease to give to such a person, at the first examination, a circular of information and advice concerning venereal diseases, furnished by the department of health; and in addition to give to such diseased person a copy of this ordinance and to report to the health department that such diseased person has received the two documents herein specified.

"When a person applies to a physician or other person for treatment of a venereal disease, it shall be the duty of the physician or person consulted to inquire of and ascertain from the person seeking treatment whether such person has heretofore consulted with or been treated by any other physician or persons, and, if so, to ascertain the name and address of the physician or person last therefore consulted. It shall be the duty of the applicant for treatment to furnish this information and a refusal to do so or falsely stating the name and address of such physician or person consulted shall be deemed a violation of this ordinance. It shall be the duty of the physician or person consulted where the applicant has heretofore received treatment to immediately notify by mail the physician or person last heretofore treating such applicant of the change of adviser; such notification to be made upon a form furnished for that purpose by the department of health. Should the physician or person previously consulted fail to receive such notice within ten days after the last appearance of such a venereally diseased person, it shall be the duty of such physician to report to the health department the last appearance of such a venereally diseased person.

"Upon receipt of a report of a case of venereal disease, it shall be the duty of the commissioner of health to institute such measures for the protection of other persons from infection by such venereally diseased persons as said commissioner of health is already empowered to use to prevent the spread of other contagious, infectious or communicable disease.

"All information and reports concerning persons infected with venereal diseases

shall be confidential and shall be inaccessible to the public, except in so far as publicity may attend the performance of the duty imposed upon the commissioner of health by section 1193e of this ordinance.

"The parents of minors acquiring venereal diseases and living with said parents shall be legally responsible for the compliance of such minors with the requirements of the ordinance relating to venereal diseases.

"Any person who violates, neglects or refuses to comply with the provisions of * * * * this ordinance shall be fined not less than twenty-five dollars (\$25.00) nor more than one hundred dollars (\$100.00) for each offense."

No matter how poor and mean a man is, his friendship is worth more than his hate.

PREVENTABLE BLINDNESS

The question of the prevention of blindness has especially interested us recently, since we have found how much work has been done, and well done, and with which we were totally unfamiliar. It seems that Buffalo still is prominent in the attention which it is given and in the brilliant results that have been attained in the marked diminution of blindness from industrial accidents and other causes.

Two of the chief hazards to the sight in industrial life may be found in the kind of work the employee is doing and in his own carelessness in using poor protection against accidents. But, indeed, you scarcely can call many of these injuries accidental, since they occur so very frequently, are so well understood, and can be so readily prevented. Take, for instance, the use of guards on lathes to catch steel chips from a tool. When anything has been studied out as thoroughly as this, one scarcely can speak of an accident as resulting from its neglect.

Some corporations, such as the United States Steel, have distinguished themselves especially by the attention they have given to these matters. Others, we are sorry to say, seem to be equally distinguished by their negligence. Surely it is worth one's while to use every possible precaution to protect his eyes when engaged in work offering especial opportunities for injury to these irreplaceable organs and to guard against this.

Leading Articles

The Anatomy and Physiology of the Stomach

By A. L. BENEDICT, A. M., M. D., Buffalo, York New

Editor, Buffalo Medical Journal

EDITORIAL COMMENT.—While we do not often indulge in difficult theoretical discussions and descriptions, it has seemed serviceable to devote much careful study to the anatomy and physiology of the stomach, in order to facilitate the understanding of its pathology. In this manner, our ability to treat gastric diseases will be much increased. We are under obligation to Doctor Benedict for his masterly description presented in this paper.

THE stomach is part of the primitive alimentary canal, formed by an infolding of hypoblast, backed by visceral mesoblast, meeting similar invaginations of epiblast backed by parietal mesoblast at its upper and lower extremities. The meeting-point of the lower end is just above the anus.

It will be noted that hypoblast forms only epithelium, and this of a bulky kind—columnar, cuboid, and so on. Epiblast regularly forms squamous, superficial epithelium, of a protective rather than secretory function, though it imitates hypoblast in the salivary glands and mammae, and forms, by infolding in other regions, nerve-cells, as of the brain and the peculiar forms in the end-organs of the various special senses. The genitourinary cell-mass, which may be considered as not having been differentiated into the three germ-layers, also forms epithelium similar to hypoblastic, as in the kidneys. The mesoblast also forms what are virtually epithelioid cells of the squamous type, as in the peritoneum and other body-cavities, from visceral mesoblast and the joint and tendon synovial membranes from parietal mesoblast. There is, however, a tendency to regard some of these membranes, notably of the body-cavities, as hypoblastic.

It may be remarked, in passing, that the term endothelium is ludicrous from the etymologic standpoint and that, if we are going to assign a quite imaginary meaning

to its second component, it would be better to call it mesothelium.

All structures of the body having a general fibrous, or linear, structure and a supporting and connecting function are derived from mesoblast. Visceral mesoblast forms unstriped, involuntary muscle, while parietal mesoblast forms striped, voluntary muscle. There is an analogous but less accurately followed distinction between nonmedullated, sympathetic nerve-fibers and the medullated, cerebrospinal nerves.

Whether there is any essential difference of structure between visceral and parietal tissues that have not been differentiated beyond the ordinary forms of connective tissue, is not so clear. Supporting parts directly connected with voluntary muscles, as bones and cartilages, are derived from parietal mesoblast. It is entirely possible that the theoretic distinctions as to structure and function are not carried out to their full degree. At any rate, we clearly recognize muscular and nervous structures evidently parietal in origin, that partake of the function of those derived from visceral mesoblast, as the striped muscles of the pharynx and those connected with respiration and the pneumogastric nerve.

All this has been interpolated before considering just where the upper line of junction lies, between the infolded hypoblastic and visceral mesoblastic primitive alimentary canal and the invaginated tube of epiblast and parietal mesoblast. Appar-

ently, the epithelial juncture occurs at the cardia, whereas the muscular backing of the epithelium is joined just below the pharyngeal muscles. A curious and possibly significant analogy may be mentioned along quite different lines. The stringy mucus of the esophagus is quite different from that of the stomach, and the same distinction exists between the mucus of the cervix of the uterus—the internal termination of which marks the limit of infolded epiblast, to join the epithelium of the lower limit of the undifferentiated genitourinary cell-mass—and that of the body of the uterus.

The liver and pancreas are essentially ramified extensions of the alimentary canal. The lungs are another extension from the same, the terminal tube of which has become virtually disconnected from the primitive alimentary canal, though still connecting with the infolding of epiblast. The thyroid gland is a still more thoroughly separated outgrowth from the primitive alimentary canal. Remembering the function of the lungs, of taking in oxygen, and the pretty-well demonstrated function of the thyroid gland, of assimilating iodine in a special organic form, it is interesting to note that every material thing taken in by the body for its use—unless by some purely adventitious and additional way—depends upon this tube of hypoblast backed by parietal mesoblast. On the other hand, it may be said that, with the exception of some glandular functions, the function of epiblast is, to protect us from and give us cognizance of the external world.

The stomach is formed as a partial torsion and dilatation of the upper portion of the alimentary canal—an illustration of the fact that nearly every *pathologic process has its normal counterpart*.

Histology

As already stated, all hypoblastic epithelium is bulky, that is, its three diameters are somewhere near the same. This fact provides for its secretory activity. Every hypoblastic cell is essentially glandular.

It by no means is a quibble of words to say that the lining of the stomach is a glandular, and not a mucous, membrane. In a sense, the same is true of the intestine; however, the analogies of the stomach to a gland and its lack of analogy to ordinary accessible mucous membranes are so marked that it is well to impress this

fact by the term used. The stomach does contain some cells that go through the ordinary goblet-process and emit mucus, but, these are normally much less numerous, both as to numbers and importance.

The strictly normal stomach secretes very little mucus, and even in cases far enough from the normal to warrant investigation most of the mucus found in stomach contents obtained by vomiting or intubation comes from the esophagus or upper air-passages. However, as the stomach is, by its ordinary use (or, habitual misuse)—subjected to variations of heat and cold and to mechanic and chemic irritation, some part of it is practically always in a state of greater or less inflammation, even amounting to minor degrees of ulceration. It is an interesting and, I believe, unsolved problem to what extent the inflammation of an organ that, normally, secretes mucus, is denoted by an excess of mucus; also, especially in the case of the stomach, it is a much more difficult problem than generally is appreciated to determine whether the mucus found in stomach contents really arises from the stomach.

The ready diagnosis of gastric catarrh is often made from the usual large mass of esophageal mucus. Which reminds me of a postmortem examiner who was wont to pull from the heart the "chicken-fat" clot characteristic of slow death and diagnose fatty degeneration of the heart. The characteristic long, stringy mucus of the esophagus, paralleled only by that of the cervix uteri, suffices for its identification. So, too, mucus intimately associated with coal-soot or other foreign matter obviously accidentally taken into the mouth or inhaled or with ciliated epithelial cells is plainly nongastric. Gastric mucus is rather likely to occur in small pearly masses, but, unless cells can be identified, it is not so much characteristics as lacking characteristics that indicate its extra-gastric origin.

A broader problem, which has both its diagnostic and its nosogenic aspects, is as to what extent an inflammation produces and is measured by the secretion of mucus. I must confess that the diagnosis of gastritis is, for myself, extremely difficult in many cases and mostly depends rather upon probabilities and general conditions than upon actual identification either of mucus or cellular debris. Unless one is very expert with the microscope, it is extremely difficult to distinguish between

these three conditions: The normal shedding of epithelium and secretion of mucus; the usual succession of minor local inflammatory reactions to indiscretions in diet; a genuine gastritis of clinical importance.

The Stomach Really a Gland

The mucus-secreting cells of the stomach are, however, of minor importance and are interspersed among about 5 million tubular glands, set closely together, with their long diameter perpendicular to the surface of the stomach. These are bound together by delicate connective tissue, including smooth muscular fibers, and with considerable lymphoid tissue, though nowhere in such masses as form the solitary and agminated glands of the intestine. It should be noted that the muscular elements often termed the *muscularis mucosæ* differ from the type arrangement quite as much as the glandular lining differs from an ordinary mucous membrane, forming a honeycomb rather than a membranous expansion of muscle.

Instead of saying that the stomach contains 5 million tubular glands, let us, rather, say that it is a gland, spread out one layer of acini deep on the interior of a hollow supporting structure. Its parenchyma is just as much a gland as that of the pancreas and liver, in which the acini are many layers deep and the acini lead into minute and then into larger ducts.

The gastric glandular tissue, though only one layer deep, is elastic only to the same degree as other glandular tissue. Its total volume corresponds to the area of the supporting muscular and fibrous supporting structure when fully distended. Hence, as the latter contracts (it never, under strictly normal conditions, being fully distended), the glandular lining is thrown up into folds termed *rugæ*.

There is only one other organ in the body that contains *rugæ*, and this organ is found in only about 50 percent of the human race; and its *rugæ* are not quite so strictly so termed as in the case of the stomach. A rather common type of man spends an enormous amount of energy, time, and money in distending *rugæ*, and it is rather a matter of accident or of partial disability that leads this type to even an apparent discrimination between the particular *rugæ* of these two organs.

As a matter of convenience, however, we may speak of the stomach as containing

glands rather than as consisting of a glandular mass. In this superficial sense, the cardiac, or fundal, end of the stomach contains almost entirely simple tubular glands. These, however, are present throughout the stomach, and, indeed, in practically the same form though not with the same secretory function, throughout the entire intestine, in which latter they are called the glands of Lieberkuehn. Toward the pyloric end of the stomach, shorter branched glands appear, in increasing proportion as the pylorus is approached, and continuing into the duodenum, but, becoming rather few after the second, descending loop of the duodenum is passed. It is said that they are never found beyond the duodenum; still it is always dangerous and never safe to use the terms "always" and "never" in connection with medical matters. In the duodenum, these branched tubules are termed Brunner's glands. It is quite possible, though not ordinarily so believed, that these glands may really have somewhat the same secretory function both in the stomach and the duodenum.

To anticipate a consideration of the physiology, while the glands are under discussion, attention may be called to the fact that the reaction of the alimentary canal is faintly alkaline in the mouth, decidedly acid in the stomach, strongly alkaline in the upper part of the intestine after the gastric acidity has been overcome, and, lastly, in the lower part of the large intestine, often acid again, although rather from fermentation than the result of secretion, so that this final reaction, being merely adventitious, is not invariably acid.

A theoretic principle has been enunciated to the effect that, when a reaction changes, it does so by a preponderance of secretory power contrary to the previous reaction, immediately after the organ in which the change occurs is reached. Thus, it follows that most of the acid secretion of the stomach occurs in the cardiac or fundal glands. It has also been taught that the glands of the stomach contain two kinds of cells in their walls, the chief (in number as well as in accredited importance of their secretion), which secrete ferments, and the parietal, not quite so closely opposed to the central duct or tubule, of different staining characteristics, which secrete hydrochloric acid.

[To be continued.]

Dakin's Antiseptic in the Treatment of Wounds

By SMITH J. TOWNSEND, M. D., Gilmore City, Iowa

IN our surgical work we have, for some time past, practiced aseptic or antiseptic surgery and have been able to secure with gratifying constancy a blameless healing of the resulting wounds. As a result of the great war now in progress, our profession has suddenly been called to treat a long succession of cases in which a raging and often rancid suppuration was present, and found that all the old drugs upon which they had so comfortably and confidently relied were hopelessly inadequate and futile. A challenge was, so to say, thrown to the profession, and I think we may now, with due modesty, assert that it has been splendidly and triumphantly met; and it seems to me that at this time we may profit by reviewing some of the literature and discussing our results with some of the newer remedies that have come to us as a result of the war.

Early in the war, the Rockefeller Institute sent Dr. H. D. Dakin, an American chemist, to France to undertake research-work there in connection with the treatment of infected wounds, and Doctor Carrel, also of that institute was sent to test in practice Doctor Dakin's theories. We find that these two men worked for some time to discover a chemical agent that would render infected wounds sterile without injury to the tissues and that after testing over two hundred preparations, Doctor Dakin finally devised a solution of sodium hypochlorite which, upon being tried out by Doctor Carrel, yielded such remarkable results that the whole medical world at once became interested.

Doctor Carrel adheres to the surgical principle of the free dependent drainage, as it has been established by centuries of surgical experience.

It is not easy to say in just what way this new method acts—whether its effects are produced by reason of the strongly antiseptic properties of Dakin's fluid or because of other properties not directly concerned with the killing of microorganisms, or whether the excellent technic is responsible, in that it necessitates a greater general

care of the wound, a free opening of all recesses, and a constant supervision that detects at the earliest moment any harmful development on the granulating surface.

However this may be, the most striking effect visible to the eye in an infected wound treated with Dakin's solution is, that the surfaces are cleaned very rapidly. Dead tissue, even large sloughs, are quickly digested away and the surface becomes smooth, clean, and bright red in color. It is, therefore, an arguable proposition that Dakin's solution, as applied by the Carrel technic, does not act alone as a germicide, but, also, perhaps chiefly, as an agent promoting proteolysis, this resulting in the destruction of those parts of the wound on which alone, or chiefly, microbes can find a place to proliferate. It, therefore, after all, is the mechanical cleansing of the wound that is of the greatest importance, so that the action of Dakin's fluid is, perhaps, very much the same as that of the surgeon's knife where the wound is excised.

As I have said, the whole medical world has been interested in this method and many eminent surgeons who have tried it have reported upon their results; especially so since the original "Dakin's solution of hypochlorites" has been replaced by the more stable and more effective remedy known as chlorazene (paratoluenesodiumsulphochloramide), and since a further improvement was introduced in dichloramine-T.

Advantages of the Newer Wound Treatment

Dr. Joshua Sweet (captain, Medical Reserve Corps, United States Army, Base Hospital No. 10), France, reports, in *The Journal of the American Medical Association* of September 29, 1917, the results obtained with Dakin's remedy in some 80 cases as being equally as good as any he had seen from any other antiseptic agent, and he thinks the use of this antiseptic, dissolved in eucalyptol and paraffin-oil¹ is of great advantage in wound treatment, be-

¹A better solvent was recently produced by Doctors Dakin and Dunham, to which they have given the name chlorcosane.

cause (1) it saves the pain of wound dressing, (2) it saves dressing material, (3) the amount of solution is small, (4) the number of wounds which a surgeon can dress in a given time is far greater than by any other method.

Dr. W. A. Sherman, of Pittsburgh, says that the use of the Dakin antiseptic has greatly reduced the mortality of the wounded soldiers and that amputations have become much less frequent.

In the December 1, 1917, issue of *The Journal of the American Medical Association*, there appears, on the Carrel-Dakin treatment of wounds, a report made by a special committee appointed by the director general of the British Army Medical Service in which they say that the results of the Carrel-Dakin treatment, as seen in a large series of unselected cases, were remarkably good. The committee is of the opinion that the Carrel-Dakin method of treatment, if carried out thoroughly, is full of promise and believe it will: (1) diminish the dangers incident to sepsis including secondary hemorrhage, (2) hasten the patient's convalescence, (3) lessen the liability to stiff joints and cicatricial deformities, (4) enable the patients to leave the hospital with better general health than they otherwise might, (5) when secondary operations become necessary, these operations are more likely to be free from septic complications than when some other system of primary wound treatment has been adopted.

However, in *The Journal of the American Medical Association* for November 17, 1917, Dr. A. D. Bevan, of Chicago, published an article, in which he criticised the Carrel-Dakin treatment of wound infection and warned against a too general acceptance of this method, which he regards as only in the experimental stage.

Dr. William H. Welch, of Baltimore, replied to Doctor Bevan's criticism in the same journal, for December 8, reporting very favorable results from the use of Dakin's antiseptic.

In my work with the Dakin method, I have made use of the tablets prepared by the Abbott Laboratories, of Chicago, under the trade-name of Chlorazene, and wish to report the following case in which this remedy was used freely.

Chlorazene in a Case of Amputation

On October 1, 1917, I was called out into the country and found the patient, a man

of sixty years, with both feet cut off by a mowing-machine, from which he fell. The stumps were filled with dirt, as he had crawled over plowed ground after the accident, so as to get to where he could summon aid. He had bled until he was almost pulseless. I called Dr. J. A. Wagner to assist me.

We promptly amputated both stumps, painted them with tincture of iodine, washed thoroughly with chlorazene solution, and sewed up the wounds over perforated drainage-tubes. We then gave a hypodermic injection of pituitary solution, and a saline enema, then left the patient in deep shock in the care of the nurse. That evening, Doctor Wagner and I drove out to see the patient and found that he had rallied to a considerable extent, seemingly doing much better than we had expected. We ordered the hypodermic use of pituitary solution to be repeated every four hours and departed.

The next morning, I redressed the stumps, irrigating with the chlorazene solution. I repeated this treatment daily for fifteen days, then at less frequent intervals for two weeks longer, when the stumps practically were healed over, and without having formed pus, a fact which I consider unusual, when the muscles and bones were so thoroughly ground full of dirt.

Parresine in an Electric-Wire Burn

Before we leave this subject, I want to mention another remedy which has been called to our attention by the war through the work of Doctor Barthe de Sandfort, of France, namely, the application, hot, of a waxlike preparation to burns and other superficial wounds after they have been thoroughly cleansed with some antiseptic such as Dakin's antiseptic.

In my experience with this method of treating burns, I have used a preparation—also manufactured by The Abbott Laboratories, of Chicago—under the trade-name of Parresine. My first case occurred September 13, 1917, when one of our workmen got his hands and arms in an electric arc and the superficial tissues were "cooked". After cleansing the surfaces with chlorazene solution, I applied parresine, and this afforded immediate relief from the excruciating pain. The dressings were changed daily for two weeks, because of the accumulation of serum under the dressings;

however, the wounds healed without any deforming scar-tissue.

On September 26, 1917, I was called to a man who had just pushed his automobile out of a burning building, where a 10-gallon can of gasolin had been ignited. Both his hands were badly burned by hot varnish on the car as well as by the gasolin. I washed the hands with chlorazene solution, dried them thoroughly, then applied parresine. This instantly gave great

relief, and the next day he went to his work as an electrical engineer. I dressed his hands frequently and they healed nicely, only, recovery was somewhat delayed, because he continued at work.

The advantages of this parresine dressing are, that it keeps the air out, so that aerobic germs can not develop, and, that it assures immediate relief from pain, while at the same time the dressing is pliable and allows healing to go on rapidly.

Diseases of the Seminal Vesicles Complicating Prostatic Disease

By G. FRANK LYDSTON, M. D., Chicago, Illinois

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IN respect to their association with its pathology, the seminal vesicles are the most important of the organs anatomically and physiologically related to the prostate. They consist of two convoluted tubes about 2 1-2 inches long, 1-2 inch wide and 1-4 inch in thickness, situated above and laterally to the prostate. The distal extremity of each vesicle terminates in a duct the size of a knitting needle and 3-4 of an inch in length—the ejaculatory duct. These ducts open, slit-wise, on either side and at the anterior extremity of the verumontanum. The ejaculatory ducts are enclosed in a fibrous common sheath and in their course through the prostate are surrounded by a lymph space or canal, the infundibulum of the prostate.

The cavities of the seminal vesicles are irregular and divided by muscular bands and trabeculae into cul-de-sacs. Internally to each vesicle at its lower part lies the termination of the spermatic cord of the corresponding side. The terminal inch and a quarter of the cord is enlarged and the vas deferens dilated, forming a cavity, the ampulla of Henlé. This cavity opens, valve-wise, by a small aperture into the cavity of the vesicle. The cavity of the vesicle is lined with columnar secretory epithelium. Under normal conditions the vesicles are filled with an opalescent fluid which dilutes and increases the bulk of the semen and protects and nourishes the spermatozoa. The

spermatozoa-containing testicular secretion distends the ampulla of Henlé, the muscular wall of which reacts somewhat like the auricles of the heart forcing the spermatozoa into the vesicle, where they normally are retained until complete emission—or until slight leakage occurs under sexual excitement or as a consequence of disease.

As Fuller has shown, interference with the mechanism of ejaculation often is responsible for disturbances of the sexual function. When ejaculation occurs, the contraction of the muscular fibres of the vesicles combined with that of the circular muscular fibres of the prostate, aided by the swelling of the verumontanum, prevents the semen from passing backward as it distends the prostatic urethra.

The seminal vesicles can be felt with the index finger above the prostate, unless that organ materially is enlarged, providing the surgeon has a finger at least moderately long and a fair knowledge of the necessary technique. As to the posture of the patient, that posture is best to which the surgeon is most accustomed. The latero-prone, lithotomy, knee chest and stooping positions alike have their advocates. In the lithotomy position deep pressure on the hypogastrium aids in bringing the vesicles within range of the finger. The normal vesicle is felt as a soft, obscurely lobulated, movable mass of about the diameter of the index finger. It easily slips from

side to side under the pressure of the finger.

The seminal vesicles only recently have received special consideration at the hands of pathologists. In a general way the diseases of these organs hitherto have received attention only as conditions secondary to diseases of the urethra, bladder, and prostate; in other words, as a part of the pathologic *ensemble* presented by gonorrhea, cancer, and tuberculosis. The profession is but just beginning to understand that disease of the seminal vesicles bears a relation to the male genitourinary organs almost as important as—and quite similar to—that which fallopian disease does to ovarian and uterine disturbances in the female.

The most frequent and important disease of the seminal vesicles is, gonorrheal infection. When once this has occurred, the author believes that perfect restoration of the vesicles to a healthy condition never occurs. It must be remembered, however, that the condition does not necessarily remain gonorrheal; on the contrary, gonococci may disappear from the semen, although the vesicles remain in a diseased condition for an indefinite period—probably always, pathologically, if not clinically. The gonococcus, too, may become transformed into a germ which to all intents and purposes is innocuous—a germ “corresponding to the gonococcus”—but which, when conveyed to a new and favorable environment, such as is presented by an unhealthy genital tract in the female, again may acquire specific pathogenic properties.

Great credit is due Jordan Lloyd of Birmingham, England, and to the late Byron Robinson, for having called attention many years ago to the prolonged infection of the seminal vesicles that frequently follows gonorrhea and to the pathological analogy of the vesicles to the fallopian tubes.

Seminal Vesiculitis

Seminal vesiculitis is a condition very frequently associated with prostatitis. The profession is greatly indebted to Fuller for his researches upon this subject.¹ Seminal vesiculitis is dangerous not only from the standpoint of infection, but it produces various psychic and organic disturbances of the sexual and urinary functions.

The causes of seminal vesiculitis are several, viz.: (1) Gonorrheal infection.

This is the most frequent and important of all causes. (2) Simple infection from urethritis of non-gonorrheal character. (3) Colon bacillus infection. (4) Prostatic disease involving the seminal vesicles secondarily. (5) Masturbation and sexual excess. Prolonged sexual excitement without gratification and coitus interruptus enter into consideration here. These various etiologic factors may be assisted in their operation by such local sources of irritation as bicycling, horseback-riding and the gouty and rheumatic diatheses.

Symptoms

The symptoms of seminal vesiculitis vary according to the acuteness of the process and the character and degree of the associated primary or secondary conditions. Thus, when the prostate is involved, the function of micturition markedly is disturbed. In other instances, the symptoms are referable entirely to the sexual function. Hemorrhagic emissions, frequent nocturnal emissions, abnormal sexual excitement, impotency, premature ejaculation, painful orgasm—any or all of these conditions may arise in different cases.

In acute seminal vesiculitis the vesicles are involved in the general inflammation of the parts about the neck of the bladder: i. e., the prostate and surrounding cellular tissue. Under such circumstances, the acute inflammation of the seminal vesicles merely is a part of the prostatic disease. In most instances of the chronic variety the prostate is involved to a greater or less extent. In other instances, however, there is very little disturbance of the prostate, the acute trouble having subsided without leaving any appreciable change in that organ, while the seminal vesicles still are plainly involved in the pathological process.

When the process is acute or subacute, a sensation of throbbing, weight, and quasi-voluptuousness in the perineum, perhaps with more or less perineal tenderness, is experienced, these symptoms depending largely upon the amount of prostatic disturbance. Voluptuous sensation mingled with a certain amount of pain and tenderness during defecation, particularly if the bowels be constipated, often is noted. The perturbations of the sexual function already mentioned also enter into the symptomatology. Painful and hemorrhagic

¹“Diseases of the Seminal Vesicles,” E. Fuller.

emissions are a very important symptom in some acute cases.

Diagnosis

The diagnosis is established by digital exploration per rectum. The distended, thickened, and tender seminal vesicles are distinctly perceptible to the examining finger. The local conditions vary according to the degree to which the prostate and surrounding cellular tissue are involved. It is the author's belief that a greater or less amount of perivesicular lymphatic hyperplasia is a very important element in chronic inflammation in this region.

Treatment

The treatment of seminal vesiculitis comprises (1) treatment directed to the vesicles themselves; (2) measures for the correction of associated conditions.

Whether the associated conditions be primary or secondary, sexual rest is a *sine qua non*. Massage of the seminal vesicles per rectum, associated with instillations of astringents—such as, silver nitrate, copper sulphate, protargol, and thallin sulphate—are essential. These instillations should be given in relatively weak solution, but in large amount, and should precede the massage. By this method, more or less fluid is made to enter the mouths of the prostatic and ejaculatory ducts, thus obtaining an alternative effect upon the chronic inflammation that very likely affects these structures. It is probable that in some instances the astringent fluid is forced into the ducts of the prostate for a sufficient distance to modify materially the chronic inflammation of the organ. In conjunction with these remedies the passage of the sound from time to time is useful. All contractions or other diseased conditions of the urethra demand attention, and, so far as possible, should be removed. Infection of the urethra and bladder should be treated by irrigations and such internal remedies as are indicated under ordinary circumstances. The Oberländer method of dilation, and irrigation have proved of service under such conditions. It must be remembered that no treatment of the diseased seminal vesicles is likely to prove effective unless associated infectious conditions of the mucous membrane of the urethra and bladder, and particularly of the prostatic urethra, are simultaneously treated. Careful restriction of the diet—which should

be as non-stimulating as possible,—avoidance of all sources of sexual excitement, and abstinence from tobacco and liquor should be insisted upon. Bicycling and horseback-riding should be strictly interdicted. Attention should be paid to the bowels and condition of the skin. Tonics and anaphrodisiacs usually are indicated, and should be of such character and dosage as seem to be demanded in each particular case. Hot sitz-baths and rectal injections of large quantities of hot water are useful adjuvants.

The author desires to lay special stress upon the fact that careful treatment of morbid conditions of the seminal vesicles very often is effective in relieving otherwise incurable cases of impotency.

It is noteworthy that in many cases in which prostatic and seminal vesicle massage is attempted by the practitioner, it is inadequately and inaccurately performed. Too much or too little force is employed, and, unless the physician has a fairly long index finger, or a skilled technic and a well-developed *tactus eruditus*, it is probable that in the majority of instances the seminal vesicles are either not massaged at all, or at most, imperfectly. This is the author's conclusion from practical experience in the treatment of a large number of patients that have been said previously to have had prolonged massage treatment for seminal vesiculitis. Observations of the value of vaccines in prostatic disease equally apply to diseases of the seminal vesicles—as might be inferred from the fact that the prostate and the vesicles are so frequently simultaneously involved in infection.

Tuberculosis and Cancer of the Seminal Vesicles

Tuberculosis and cancer of the seminal vesicles often complicate cancer and tuberculosis of the prostate or bladder. They practically do not occur as primary conditions. There may be certain exceptions to this rule, but they are so rare that they are not of practical importance. The seminal vesicles have been operated upon in certain cases for the relief of tuberculous disease. Where the disease apparently is limited to these structures an operation perhaps may be warrantable, but, the author ventures the opinion that in most of the cases of alleged primary tuberculosis of the seminal vesicles the condition is an induration incidental to chronic seminal vesiculitis

of infectious origin. This usually will yield to massage and the other measures of treatment already suggested, perhaps not to the extent of complete cure in all cases, but to a sufficient degree to render the patient perfectly comfortable.

Extirpation of the Seminal Vesicles

Extirpation of the seminal vesicles is a matter for serious consideration, but is an operation the sphere of which is gradually enlarging. Draining of the vesicles via the perineum sometimes is indicated in obstinate rheumatoid conditions of gonorrheal origin and in certain obscure "nervous, urinary and sexual" disturbances. Generally speaking, it is difficult to successfully treat symptoms referable to the prostate

and vesical neck while an infected vesicle constantly is adding fresh fuel to the pathologic fire. Injection of the seminal vesicles via an opening in the vas as suggested by Belfield sometimes is very efficacious. The author has had a limited experience with the use of the x-ray and radium in chronic seminal vesiculitis, and is inclined to believe that they have a certain sphere of usefulness. Radium, especially, should be given a trial before subjecting the patient to so serious an operation as vesiculotomy or removal of the vesicles.

As a final resort, drainage of the vesicles may be performed. Extirpation of the vesicles for tuberculous or malignant disease, in the author's opinion, rarely, if ever, is justifiable.

Membranous Dysmenorrhea: Its Pathology and Treatment

By C. S. NEISWANGER, M. D., Chicago, Illinois

I FEEL impelled to write a few words on the above trouble because gynecologists have been able to do so little to relieve it except by radical operation which, from my experience in treating many cases, seems irrational.

Although considered a rare form of dysmenorrhea I believe it occurs very often, but, in modified forms or different degrees of intensity. While the pathology is well-known, the etiology is obscure and is largely speculative even by the best writers on the subject.

In normal menstruation the endometrium commences to be greatly swollen and spongy about the eighteenth day after the flow, and continues so up to the next period, when the superficial layers of the swollen uterine mucosa are cast off, thus giving rise to hemorrhage, while the deeper layers remain intact and form a nucleus, as it were, for the reconstruction of the entire endometrium at the termination of menstruation.

In membranous dysmenorrhea, instead of the endometrium taking on that swollen, spongy condition for the reception of the ovum, it begins, about the eighteenth day after the flow, to harden, and that condition continues up to the time of the period

when the hardened mucosa has to be born, as it were, by uterine contractions with all the pains of childbirth. Many women affected with this trouble have told me they would as soon go through labor as to have a menstrual period.

Sometimes a complete cast of the uterus is discharged with much pain; which is followed, for the remainder of the period, by comparative comfort. More often however, the membrane is discharged in shreds and the intense pain and discomfort is prolonged to five days or one week, depending on how long it will take the uterus to rid itself of the membrane.

The gynecologist will curette, but, that only bridges over the one period, and has to be repeated until the patient is forced to accept the last alternative—hysterectomy—then she becomes a hysterical, nervous wreck for the balance of her life. The picture is not overdrawn.

The rational remedy is one that will keep the endometrium from hardening and allow it to pass off as menstrual fluid. In negative galvanism we have a remedy that is invaluable—I might say infallible—in these cases.

The negative pole, or cathode of a continuous current acts on tissue much like a

modified alkaline caustic: disintegrating, liquefying and softening.

While the logical time for beginning treatment would seem to be at the commencement of the premenstrual swelling—about the eighteenth day after the period—I have found from experience it is best to commence about the third or fourth day after the flow and give two treatments per week, or about seven treatments before the next menstruation. This, I have found, is sufficient to keep the endometrium in a softened condition and insure a comfortable period.

My last case, a typical one, will show the results of treatment in the majority of cases: Mrs. K—age 40—married ten years—no children. Had dysmenorrhea since shortly after puberty, the periods lately becoming so severe that she was obliged to remain in bed five days under narcotics, and had made up her mind to be operated upon. After five treatments of intrauterine galvanism—negative—she phoned me she had commenced to menstru-

ate in the night without pain, and was having a very comfortable period.

Technic

The patient is advised to take an antiseptic vaginal douche before coming to the office. A vaginal speculum is employed throughout the treatment; the os is exposed and carefully mopped off with an antiseptic solution. The electrode is 28 centimeters over all, the distal end having a copper tip 4 centimeters long, the balance of the staff is insulated with hard rubber. These electrodes can be purchased in 4 sizes, viz: 14F, 16F, 18F, 20F.

The electrode is introduced to the full depth of the uterus and attached to the negative pole of a constant current; the positive terminal is the usual abdominal pad. A current of 25-30 milliamperes is maintained for ten minutes and the sitting repeated twice a week.

The usual pain and uterine colic often attending intrauterine application is entirely absent, because the endometrium, in these cases, is not sensitive.

After Thirty Years—III

Notes and Reflections on Life and Work

By WILLIAM RITTENHOUSE, M. D., Chicago, Illinois

[Continued from June issue, p. 443.]

The Doctor As a Business Man

IT often is said, both within the profession and outside of it, that doctors are poor business men. This, no doubt, is true to some extent, but, it is also true that the doctor's business conditions are different from those of any other occupation, and that, therefore, the methods of commercial affairs must be modified somewhat to make them applicable to the doctor's circumstances. Sickness, as a rule, comes unexpectedly; consequently, people are not able to plan in advance for the financial preparation necessary to meet their doctor-bills. Rent, food, clothing, and most other expenses can be estimated in advance and prepared for. Doctor-bills, however, are incurred whether they can be afforded or not, and to all except the well-to-do this means a sacrifice of money that can ill be spared from the family resources.

The consequence is that the doctor can

not employ the same means for collecting his bills as can the landlord or the grocer.

The question of a man's business methods involves two considerations, first, how he gets his money and, second, what he does with it. I purpose to devote a brief consideration to each of these aspects of the question.

Fees

The fees charged by doctors in any given community are largely determined by custom, and this is especially true in the country and in small towns. In a large city, there obtains a greater diversity of fees, each man charging what he thinks he can get through his skill and reputation. Local medical societies have, in many places, adopted fee-bills; still, these have not been generally followed. Especially is this true for Chicago, because the fee-bill of the Chicago Medical Society was framed by men who must have been incurable optimists on the subject of what the public could or would pay. The fees

there listed may sometimes be collected from very rich or very good natured patients by a few especially fortunate doctors; but, as a guide to a beginner to help him determine a scale of prices, this fee-bill is absolutely worthless. The great mass of the common people simply can not pay such figures, for, they have not the money nor have they the way to get it.

The result of trying to enforce a scale of fees beyond the power of the public to pay is demoralizing. Many a man has joined the ranks of the deadbeats because of a doctor-bill that he had no means of paying. Indeed, most deadbeats have become such involuntarily. They originally started out to pay their way, but, through misfortune of one kind or other—often through sickness—they became involved in a mass of debts that seemed perfectly hopeless in view of a limited income; then, at last, they move away, to some neighborhood where they are not known. And, when they have again exhausted their credit, they repeat the process.

A moderate fee collected is better than a big one that eventually has to be transferred to the profit and loss column. It is better both for doctor and patient. In the one case, the doctor gets his fee and keeps his patient; in the other, he loses both. In a general family practice, the most profitable business comes from those families who have such confidence in the doctor that they remain faithful to him year after year; and, in order to retain these, it is wise to adjust one's charges with some reference to their ability to pay.

In fixing a fee, there are several elements that enter into the question. Among these, we may mention the following: (1) the skill required; (2) the time consumed; (3) the difficulty of manual or instrumental manipulation; (4) the value to the patient of the service rendered; (5) the disagreeableness of some operations; (6) expecting the rich to make up to some extent for the loss on free services rendered to the poor.

To illustrate: Some obstetric cases consume a great deal of the doctor's time without being especially difficult or requiring special skill. This time can properly be charged for. Another obstetric case may not take long and, yet, may require special skill, as in placenta prævia, or severe muscular exertion, as in a difficult forceps-delivery. The operation of intubation in

obstruction of the larynx requires but little time or muscular effort, yet it calls for very special skill and deftness. That skill should constitute the chief factor in fixing the fee.

The clearing out of an impacted rectum can scarcely be called a brilliant operation, nevertheless, I always have found patients willing to pay a liberal fee for it, because they recognized the fact that it was a most unpleasant one for the operator.

The value, to the patient, of the service performed is, properly, the chief element in determining the amount of the fee. What that value is, often is problematical and yet, in most cases, we have some data for our guidance. In a case of typhoid fever or pneumonia, we may be uncertain whether we have saved the patient's life or not. He might have got well without treatment. However, when we perform intubation or tracheotomy in a suffocating child and recovery takes place, we know that we have saved a life. When we get a good result in a fracture or dislocation, we know that we have saved the patient from being a cripple, and this certainly should have its influence in determining the fee. That the rich should pay liberal fees to make up for the large amount of charity-work done for the poor, is pretty generally recognized, even by the rich themselves, although there sometimes arises a little friction in settling the question as to who are the rich and how high the fee ought to be. The old fashion of the rich patient, that of sending the doctor a honorarium, has nearly passed away, a fact which to me seems regrettable.

In my own experience, there have not been very many occasions when I have been the recipient of a honorarium; still, when I have been so fortunate, the amount always has been more than if I had sent a bill. Besides, there is the good will of the patient—which is worth much.

The profession in general probably have little idea of the abuses that have arisen in our large cities in connection with this matter of charges to the rich. Without reflecting in the slightest degree upon the legitimate specialist, I violate no confidence in stating that there are in this, our city, a number of sharks posing as specialists who are simply confidence-men. I know of an instance where one of them charged a wealthy man \$5,000 for removing his

tonsils. The patient was sore, not alone in his throat, but also his pocketbook, because he knew that the doctor was not one of those who treat the poor gratis, but, who discouraged their coming to his office.

A more flagrant case was the following: Mr. A. is a prosperous merchant of this city. Dr. B. calls himself a specialist, although he never had any reputation as a surgeon. The two men knew each other socially through their families. It became necessary for Mr. A. to have a prostatectomy performed. Dr. B. heard of it and used every persuasion he could command to get the case. Mr. A. finally consented and went to a well-known hospital. The doctor seems to have acquired a weakness of the knees about this time, for, he arranged with one of the internes to do the operation for him for a liberal fee. A member of the surgical staff of the hospital heard that Dr. B. was to do a prostatectomy on a certain date and, never having suspected that the doctor in question was a surgeon, he accidentally drifted into the operating-room at the appointed time. Dr. B. then discovered that the patient was not in condition that day, and so postponed the operation, which was quietly performed a day or two later. When Mr. A. had so far recovered as to return home, he nearly had heart failure at receiving a bill for \$25,000. He called the doctor on the telephone and remonstrated, stating that it had been his intention to send him a check for \$5,000, without waiting to receive a bill, under the impression that that would be a very liberal honorarium. The doctor made the usual excuse, that he treated so many poor for nothing that the rich ought to make it up. The mental shock sent Mr. A. back to bed for a time. In the meantime, this man's wife, who had overheard her husband's end of the telephone-conversation, consulted the family lawyer. A threat of exposure led to a compromise. Just how much was finally paid, Mr. A. did not inform me, but, he intimated that it was less than \$25,000. This case was common talk in one of the big office-buildings several years ago. It was suggested that it ought to be aired by the Medical Society, still, nothing was ever done.

Collections

One of the most difficult problems the doctor has to solve is the matter of collect-

ing, and, because of this difficulty, a great many doctors fail to get the proportion of their hard-earned fees to which they are entitled. I am convinced that a great many lose, through bad debts, from twenty-five to fifty percent of their earnings, and some even more.

Among the reasons for this state of affairs, we may mention the following:

1. The doctor never is sure of his time and, so, is prone to neglect his bookkeeping and the sending out of bills at regular intervals.

2. Few doctors are sufficiently versed in bookkeeping to devise a simple system of books adapted to their business and requiring little writing. So, they go on using the clumsy old-fashioned daybook and ledger, which involves so much work that their posting usually is sadly behind and often neglected altogether.

3. Failure to follow up those patients who pay no attention to a bill sent.

4. Timidity about insisting upon business methods, for fear of offending sensitive patients. The patient who takes offense at business methods needs either to be educated or dismissed.

When we visit a new patient for the first time, we should take it for granted that he will pay cash. When we have written the prescription or prepared the medicine, is the time to say: "That will be two dollars" or whatever the fee is. For a total stranger to expect us to give him credit as a matter of course, is of itself suspicious. The honest man who is hard up will tell us in advance if he can not pay until a certain date.

Dispensing one's own medicine will sometimes help in collecting a cash fee. I say to the patient: "If you wish to pay cash for this visit, I can save you something on your drug-bill, by furnishing you the medicine. I do not furnish medicine on credit, but, shall have to write you a prescription." This obviates the unpleasant experience of finding afterward that a deadbeat has worked me for free medicine as well as the visit.

I think the doctor ought to post his accounts at least once a week and to send out his bills on the first of each month. However, this often will be impossible to a busy man unless he has a system that takes but little writing. Such a system can be devised and is quite feasible. The system I have used for thirty years has been

so satisfactory that I will outline it briefly.

A Serviceable System of Bookkeeping

I keep a visiting-list, in which I enter daily all business done—office and visiting work, cash and credit. I have found the Medical Record Visiting-List best adapted to my own wants. Once a week, this business is posted to a specially prepared ledger. Even a large week's business can be posted in half an hour, owing to the manner in which this ledger is adapted to the visiting-list. I post all business, both cash and credit, so that any patient's account will show a complete history of all my dealings with him. This often becomes a great convenience in after-years. At the end of the month, about two hours of work suffice to get out the bills, because there is no posting to be done.

The keynote of this system lies in the ledger. I have this made to order—ruled and printed on a plan furnished by me to the bookbinder. It is so ruled that I can give a patient a whole page, good for 40 months' business, if he is an old "standby," or any fraction of a page, if he is a "transient." This obviates the waste of space incident to the ordinary ledger giving a page to every patient. Of course, such a ledger is expensive, but, only apparently so, because it will last for years. For a large business, a ledger of 400 pages will last from seven to twelve years and for a moderate business, much longer. My last one, when full, contained over 1,700 accounts, and it constitutes a complete record of my business with all my patients for eleven years.

I have been urged many times to adopt various loose-leaf and card-index systems. However, on careful examination, I have always found that my own plan was more satisfactory to me.

Sending out the bills, is only the first step in getting the money—there must be follow-up action. We should recognize the fact that there are different types of patients, and that each type needs to be handled differently. There is the one (and may his tribe increase!) who only needs to have a statement sent, and settles at the next payday. Then there is the super-sensitive man, who regards the sending of a bill as an affront, especially if the doctor's name is on the envelope, where the postman can see it. One man considers

the doctor's bill only when all other bills are paid. One will pay if persistently dunned; another resents a dun. Lastly, there is the professional deadbeat. I deal with these various types as experience has taught me to be best. For my old families, all that is necessary is, to send a statement of account on the first of the month; I know they will pay as soon as they are able. The new patient, who is a comparative stranger, needs to be looked after. If I do not hear from him in thirty days, I send him a polite but firm note, requesting that he pay something on account or explain why he can not. If he pays no attention to this, I write him a final note, saying that, if I do not hear from him within ten days, the account will be placed in my attorney's hands. I explain that I am perfectly willing to give any reasonable credit, but, that he must take enough interest in the matter to come and see me about it, as I have no time to run after my bills. If this brings no response, I give the bill to my attorney. I never make a threat that I do not carry out.

It is not always easy to find a satisfactory collector. The large collecting agencies have proven less satisfactory in my experience than individual collectors. I have had the best results from young lawyers trying to build up a business. The good collector, like the poet, is born, not made. For several years, I have been fortunate in having one who can collect almost any bill. He is a genius—a marvel of patience, persistence, and tact. For seven years, I have lost almost nothing from bad debts. Now that the war has taken him away, I am desolate.

Any patient who once has made trouble about his bill should be refused further service except for cash.

Suing for bills should be avoided as much as possible. Unless the bill is large and the patient responsible, it does not pay. The law unfortunately is all in favor of the deadbeat, while the labor-unions have enough political power to block every attempt to change it.

Saving and Investment

Doctors are notoriously easymarks for promoters of dazzling financial schemes, such as gold, silver or copper mines, besides many other forms of sudden accumulation of wealth. Most of these schemes are deliberate swindles. The

mines exist only on paper and never are developed. A few of them are *bona fide*, but, are undertaken by men with no experience in mining; hence, are doomed to failure. I have known many doctors to invest in such schemes, but, very few ever saw any dividends. It is simply throwing money down a rathole. Why do doctors do the very thing they condemn in the layman who consults a quack? The medical profession has poured thousands of dollars into the pockets of financial quacks, instead of seeking the advice of their bankers or other legitimate financial advisers. A good investment does not have to peddle its stock around by means of glib-tongued promoters, because there is always plenty of capital available for a sound enterprise. Backbone enough to say "no," and mean it, is the best defense against the siren-song of the promoter.

As soon as a doctor has a living-practice, he should begin to save, even if at first the amount be small. Five dollars a month looks like a trifling sum, too small to be worth while as a provision for a rainy day. For all that, it is quite surprising what it will amount to if regularly put into the savings-bank and resolutely left untouched in the hour of temptation. Every little while the accumulation can be invested so as to bring approximately 6 percent. At the end of ten years this will amount to over \$800; in twenty years, \$2,300; in thirty years, over \$5,000. Of course, this is not riches, still, it is worth while. How many doctors, after thirty years of hard work, have \$5,000 ready cash, besides their other investments? It simply needs backbone to set this little aside and leave it untouched.

For general investment, farm-mortgages

and municipal bonds are, probably, the best means of combining safety with a fair rate of interest.

The doctor should have life insurance; however, too many overburden themselves with heavy endowment policies. I think it is better to stick to a straight life insurance, because one gets so much more protection for the same money. The endowment policy combines the principle of the savings-bank with life insurance, although you really get but small interest on the savings part of it. Better keep them separate and invest your savings yourself. What I mean is this: If the straight life premium is \$20 per \$1,000 per annum and the endowment premium is \$50 per \$1,000 per annum, it is better to take the straight life insurance and invest the other \$30 in bonds and mortgages. You will have more money in the end. This is, of course, on the presumption that the \$30 will be invested and not frittered away.

If a man needs to tie himself up in order to save, then endowment insurance is a good thing. Once more, it is a matter of backbone. Saving always is.

Many doctors think they must own a house. They look upon rent as money lost, forgetting that, in owning a home, the interest on capital is lost in the same sense. If the interest on capital plus taxes, insurance, repairs, and depreciation is still less than rental, then it pays to own; always provided that a foreign population does not come in and overwhelm the neighborhood, in which case a home may prove a total loss. I have known many doctors to lose all their savings in this way.

(To be continued.)

2920 Warren Avenue.

The Treatment of Chronic Diseases

Diseases of the Nervous System

By GEORGE F. BUTLER, A. M., M. D., Kramer, Indiana

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[Continued from June issue, page 446.]

Meningitis

(*Leptomeningitis, Cerebrospinal Meningitis, Spotted-fever, Tuberculous Meningitis*).

SINCE the general underlying pathology of meningitis, in all of its forms, is essentially the same as that of encephalitis,

with which it is almost invariably associated, it may be said, in general, that its treatment is essentially the same as is that of inflammation of the brain.

As in the former disease, so in meningitis, especially in the acute and the cerebrospinal varieties, the aim of treatment in the early stages (where alone treatment

holds out any hope) should be, to relieve the congestion in the pia mater and the cerebral tissues, and to equalize circulation throughout the body. And the detailed means by which this is to be accomplished are precisely the same; namely; cold to the head, heat to the extremities and abdomen; warm enemata every six hours or so; and frequent tepid spongings and friction of the skin. A brisk purge and intestinal disinfectant, to be followed by a laxative saline, given on exactly the same principles as in encephalitis. The drug-treatment is, in all respects, the same as in the former disease, to which the reader is referred. All that remains, therefore, is, to outline, briefly, certain features of treatment that pertain, respectively, to the special forms of meningitis.

Simple Acute Meningitis.—Inasmuch as this form of meningitis is unquestionably a mixed infection, precipitated, as a rule, by some special infective microorganism, such as the pneumococcus, the Klebs-Loeffler bacillus, and others, it is good treatment to inject appropriate mixed serums, as indicated by a bacteriological examination of the cerebrospinal fluid. Or an autogenous vaccine may be prepared from this fluid.

It is characteristic of meningitis that the serous effusion into the arachnoid spaces is exceedingly profuse, because the pia mater membrane is itself inflamed, and the pressure-symptoms of the effusive stage are, therefore, likely to be extremely severe. Relief from these symptoms can be partly attained by judicious puncturing of the lumbar segment of the cord. The best method of doing this is, to perform lumbar puncture on alternate or even successive days, abstracting not to exceed 10 mils (Cc.) of fluid at a time. The physician will, of course, govern himself by his observation of the pressure under which the fluid flows from the puncture as to whether further puncture is necessary.

Tuberculous Meningitis.—This variety requires rather different handling than does the other, because all its manifestations are modified by the presence of the underlying tuberculosis, which not only gives us a distinctive pathogenic element in the morbid picture, but, subtracts materially from the natural resistance of the patient to the meningitic processes and prohibits our making any vigorous calls upon

his physiologic defenses. The drastic defervescence measures recommended in encephalitis are not applicable here. We have not to do with a sthenic, but, with an asthenic condition.

Patients having tuberculous meningitis are peculiarly sensitive to sensory impressions. Consequently, they should be removed at once to a quiet darkened room. The two chief indications in treatment are, to cleanse and disinfect the gastrointestinal tract and to build up the patient's resisting power. The first of these should be carried out by means of the measures recommended in encephalitis, which, however, must be pushed more thoroughly and continue longer than in that disease or in the more acute types of meningitis.

The second indication is the more important. As in general tuberculosis, so in tuberculous meningitis, the main problem is one of feeding the patient. Unless this can be done, and, when it no longer can be done, the case is hopeless. Indeed, as we know, virtually all cases are hopeless, anyway. But, so long as the patient can be made to take nourishment, the physician should persist in his attempts to influence the disease favorably. When he no longer can do so, then further treatment is only a futile prolonging of the agony and a useless aggravation of the patient. This forced feeding must, of course, consist of nourishing, easily digested fluid diet, of which milk and eggs should form the basis, and should be fed as much and as long as possible by the mouth, in teaspoonfuls, great care being taken that the child does not choke itself. If necessary, it may be given in the form of nutrient enemata.

Of medicines, there are very few, indeed, that have any influence upon the course of this variety of meningitis. Creosote, which is theoretically an ideal drug, in practice, is inadmissible, because of its deranging effect upon the stomach. Iodide and the lactate of calcium are, undoubtedly, the best constitutional remedies, and should be given in full doses in a little milk. Nucleins are useful to combat the anemia, and may be given intravenously, if desired. Lecithin, in small doses of not to exceed 1-2 grain twice daily, helps to build up the nerve-tissues of brain and spine; but, this is indicated in the convalescent stage (if this ever is reached) rather than for the disease itself; that is to say, at a period

when reconstructant remedies are indicated, in addition to nourishing foods.

Symptomatic conditions dependent upon the underlying tuberculosis must be met as they arise. Indeed, it is important that the physician should bear in mind all the time that his patient is really a tuberculous patient—that his condition really is an acute exacerbation of tuberculosis—and should govern himself accordingly.

Lumbar puncture is of no value at all in tuberculous meningitis and should never be practiced, once the diagnosis is established.

Acute Myelitis

(Inflammation of the Cord)

The difference between diffuse and transverse myelitis is one of area, not of general pathology; hence, the treatment of the two varieties is the same and may be discussed under the same head.

It is to be observed that the physiologic pathology of myelitis (which is all that we can hope to influence by our treatment) is essentially the same as in the acute inflammatory diseases which I already have discussed; the only difference being that the field of activity has been transferred from the brain and its serous membranes to the gray matter of the spinal cord, so that there are certain variations in the morbid process, because of local conditions. Chief of these variations are, first, the absence of profuse effusion, because no serous surface is involved in the inflammation, and, second, the rapid occurrence of pressure-necrosis in the neurons, owing to the crowded condition of the cord in its bony canal and the microscopic smallness of its vessels. For this latter reason, the process is a much more difficult one to reach with remedies than are the acute inflammations of brain and meninges.

Rest—complete anatomic and physiologic rest—is the *sine qua non* of treatment in myelitis. The patient must be put to bed at once and kept in a horizontal position; if the case is a severe one, he should be slung in a hammock, so as to take every vestige of tension off the vertebral column. Cold or heat, according to the reactive capacity of the patient, should be applied along the spine until the active inflammatory symptoms subside. The practice of blistering or cauterizing the back along the path of the spine has never appealed to me, at least in ordinary cases of acute myelitis. I doubt whether it does any real good even

in the chronic form. All the influence we can hope to exercise by stimulation of the skin is an indirect, derivative one; and this can be achieved just as well by heat and cold. Some patients do better under hot, some better under cold applications, while still others do well under alternate applications of heat and cold.

The pain and jactitation associated with myelitis usually demand special medicinal attention. Opium should not be given unless the severity of the pain absolutely requires it—which is not often. By far the most effective drug for the relief of this spasmodic condition is, gelsemium, which may be given in 5-minim doses of the tincture, in conjunction with whatever other remedies are being prescribed. Not only does gelsemium, by sedating the skeletal neurons, quiet the pain and jactitation, but, it exercises a favorable influence upon the hard rapid pulse that characterizes spinal inflammations. This quality of pulse results from the irritation of the sympatheticus through the cervical ganglia, and gelsemium is a sovereign antispasmodic, in this respect.

Of the drugs that act most directly and favorably upon the congestive process in the cord, veratrum must be accorded first place. It should be given, in small doses, from the beginning of the disease until all acute symptoms have subsided. Thus used, it is a perfectly safe drug and most benign in its influence upon the circulation and the nervous system, too. It is, in fact, besides gelsemium, the only remedy that exerts any influence upon the disease; and when these two have been exhausted we really are at the end of our therapeutic resources so far as the acute stage is concerned.

When the acute stage has subsided and the disease has become chronic, we may try to promote absorption of the infiltrated exudates in the cord by giving protiodide of mercury in small doses, say, 1-20 or 1-16 of a grain. Ergot also assists in this absorptive process, by toning up the spinal capillaries. It, too, should be given in very small doses, not exceeding 1 grain of the extract.

It is, of course, important that the intestinal tract be kept clean and aseptic throughout the entire course of the disease by the use of intestinal antiseptics and saline laxatives. There is great tendency in myelitis to constipation, and this must be persistently combated by the judicious

use of peristaltic stimulants, of which strychnine may stand as a type. At night, 2 grains of phenolphthalein, followed in the morning by a laxative saline, is an excellent disinfectant.

After all, however, the main object of our therapeutics in myelitis must be directed toward forestalling as much as possible, and providing for, the complications which are almost sure to arise. Chief among these complications are the appearance of bedsores and paralysis of the bladder. The greatest care must be taken to change the position of the patient at frequent intervals and to keep those parts of the body that are subject to pressure well hardened with alcohol. Most myelitic patients sooner or later enter upon catheter-life; but, this should be warded off as long as possible, every effort being made to incite the bladder and urethral muscles to natural activity, and every precaution being taken to maintain the asepsis of the urine.

Hexamethylenamine, in 21-2 to 5-grain doses with plenty of water, not only serves as an excellent urinary antiseptic, but, is supposed to exert a favorable influence upon the spinal fluid. My experience is that uva ursi, 15 to 20 drops of the fluid extract, is even a better agent than this and may be given for much longer periods without causing irritation. When it becomes necessary to catheterize, the greatest care must be taken to do it under strict aseptic and nontraumatic conditions. The same precautions of cleanliness apply to the care of the bowels, which are so frequently the subject of involuntary movements.

The role of electricity in acute myelitis is limited, as in poliomyelitis to the preservation of the nutrition and tone of the affected muscles, pending such restoration of the neurons as is destined to take place. The proper time for its employment, therefore, is immediately after the subsidence of the acute symptoms; and the proper form of application is that of galvanism. It may be continued for two or three months, after which time it is futile, because by that time whatever restoration of neurons is likely to occur will have taken place; and electricity has no direct influence upon the spinal neurons.

The feeding of the myelitic patient is somewhat of a problem. It is important that he should be well nourished, still, his

condition is not such as to favor digestion or metabolism. Hence, his diet must be nicely adjusted, so as to yield the maximum of nutriment for the minimum of waste and elimination.

Poliomyelitis

(Acute Anterior Poliomyelitis. Infantile Paralysis.)

Modern revision of our concept of this disease has practically classified it as a sort of composite process of encephalitis, meningitis, and myelitis, differing in type as one or other of these three elements predominates. Its distinctive features are its virulent causative microorganism and the indiscriminate irregularity with which it attacks the gray matter of the various parts of the nervous system.

The treatment of poliomyelitis, therefore, resolves itself into the treatment of the three preceding diseases, adapted to the particular type of the affection that is under one's hand at the time. If the encephalitic element predominates, then the treatment is that of encephalitis; if the meningitic element, then the treatment of meningitis; and if the myelitic element, then the treatment of myelitis. Despite the recent recognition of these different forms of poliomyelitis, the spinal type still remains by far the most common, and this type, according to our present knowledge, may be regarded as a highly infective, a typical form of myelitis. Hence, in these ordinary spinal forms of the disease, the treatment is essentially that of acute myelitis.

This identity of treatment extends to the use of electricity after the acute symptoms have subsided, and for the same purpose, namely, to preserve the nutrition and irritability of the muscles pending the restoration of the degenerated neurons. Since the muscles usually have lost their normal reaction to the faradic current, it is plain that the only current that is of any avail is the galvanic, to which the muscles will respond direct. Massage, properly applied, has also a good effect upon the nutrition and activity of palsied muscles and should be employed. But, to be of any benefit, it must be carried out by a skilled masseur and not be entrusted to the parents or nurse, whose rubbings are wholly ineffective.

In spite of our most careful treatment, there will generally remain a residue of

muscular atrophy and neuronie destruction that will call for artificial support by means of braces and perhaps even for operative procedures. This, of course, becomes a question for the orthopedic surgeon to decide.

Neuritis

(*Multiple Neuritis. Peripheral Neuritis. Beriberi. Lead Paralysis. Alcoholic Neuritis.*)

The treatment of neuritis is, in general, the treatment of the underlying conditions. If the exciting cause be removed, even in the severest cases, the neuritis always shows marked improvement and in the less severe cases gets well. On the other hand, one may treat the neuritis ever so assiduously, yet, if the underlying disease be neglected or overlooked, the nervous disorder obstinately persists. It is important, therefore, that the physician make himself acquainted with the history and details of the trouble, in order that he may intelligently shape his therapeutic measures.

Simple Multiple Neuritis.—This form of the disease is a simple mixed infection, similar to influenza, whose germ, indeed, is often one of the causative agents. It may, in fact, be said to bear about the same relation to the peripheral neurons that muscular rheumatism does to the musculature. The morbid agent of rheumatism, whatever that may be, is unquestionably the commonest morbid agent of simple neuritis. Hence, the treatment of simple multiple neuritis is about the same as that of rheumatism.

The two prime factors in the cure are, rest and heat. Without these, no medicinal treatment is of any avail. With them, medicines often can be dispensed with. The patient should be put to bed, no matter how mild the attack, and dry heat, in the form of hot blankets or electric pads, should be applied to the extremities. These applications are to be maintained as long as there are any signs of active inflammation. In occasional, very severe cases, where the temperature was very high and the inflammatory process exceptionally violent, I have used cold instead of heat; but, only temporarily; and I do not recommend it as a routine practice in ordinary cases.

The same measures are to be employed for the depletion and disinfection of the

intestinal tract as have been insisted upon in the treatment of other inflammatory disorders, namely, frequent small doses of calomel, ipecac, and phenolphthalein, with saline laxatives in the morning.

The pain of neuritis always is severe and requires special attention. The hot applications help to allay it. In exceptional cases, opium may be necessary, although it should be withheld wherever possible, not only because of its habit-forming dangers, but, because it is positively antagonistic to the curative process. Gelsemium, in 5-drop doses of the tincture three or four times a day, usually will effect sufficient physiologic rest for the neurons to control the pain from the inside; and veratrum is an excellent local application as an external anodyne.

In the way of internal general medication, veratrine and sodium salicylate or aspirin are ideal. The former drug dilates the systemic capillaries and slows the heart, thus equalizing circulation and relieving the congestion of the neurons; the latter exerts a specific influence upon the toxic agent. If the patient is asthenic, digitalis or tiny doses of strychnine may be added; but, strychnine must be prescribed sparingly in the active stage. It should not be forgotten that in neuritis, as in rheumatism, the blood usually is loaded with effete matter, which often is the cause and always the aggravator of the neuritis. It is, therefore, advisable, intercurrently with other treatment, to give colchicum (5 drops of the tincture), and lithium benzoate (5 to 10 grains), for the purpose of unloading this effete matter.

As soon as the acute symptoms subside, electricity should be employed, the mode and degree to be determined by the reactive capacity of the nerves and muscles. At first, galvanism is about the only form that is available; but, as soon as the reaction to faradism begins to be established, this form should also be employed, and both should be persevered in until recovery of sensory and motor power.

Alcoholic Neuritis.—This is by far the most hopeless form of neuritis; first, because it is almost impossible to remove the underlying alcoholism; second, because the degeneration of the neurons is interstitial; and, third, because the walls of the capillaries are hopelessly sclerosed and the vasomotor vesicles relaxed. The chances of

curing the neuritis are precisely proportionate to those of curing the alcoholism and depend upon the extent and duration of the damage done by the alcohol.

The local treatment is the same as that of simple neuritis. Alcoholic neuritis, however, seldom gives any great degree of pain, since the sensibilities are already dulled and the nerve-centers poisoned. For the jactitation, nothing is better than gelsemium in small doses. Otherwise, the treatment of alcoholic neuritis resolves itself into the treatment of alcoholism.

Lead Paralysis. (Wrist-Drop.) — It is highly important, indeed, all-essential, that the patient should be removed utterly from all contact with the environment which has caused the trouble, and, if possible, be given the advantage of an outdoor life, preferably sea-air. As an antidote to the lead, sulphur and magnesium sulphate should be given as a cathartic and iodide of potassium in fairly large doses as an eliminant. So far as the neuritis is concerned, the

prognosis as a rule is good, provided the environment-factor can be properly controlled. But, of course, the anemia due to the metallic poison is a serious and obstinate matter, for which little can be done beyond supplying good nourishment and fresh air.

Single Neuritis. — Among the single neurites, are included all of the cranial nerve paralyses, occupation neurites, such as telegrapher's and writer's cramp, baseball-pitcher's arm, etcetera, and all purely traumatic neurites. When the nerves involved are sensory, pain is associated with the trouble; when they are sheerly motor nerves, there is, of course, no pain. With this distinction, the treatment of all of these single neurites is altogether the same as that of the types of neuritis considered above, namely, the removal of the underlying cause, employment of dry heat, and the other therapeutical measures recommended under simple neuritis.

[To be continued.]

A Plea for Honest Practice

By F. D. PATTERSON, M. D., Colorado Springs, Colorado

EDITORIAL COMMENT.—Doctor Patterson raises certain serious charges against hospitals and surgeons; charges that, unfortunately have only too much basis in facts. No doubt, many abuses of surgery, and, also, of hospital facilities are perpetrated; yet, we believe that they are exceptional. At any rate, the supposedly transcendental superiority of surgical over purely medical methods of treatment no longer is admitted without qualification. The signs of the times are, we believe, that the family physician is not of the past, but that he will, again, come into his own.

ALTHOUGH in recent years medical science in all its various branches has progressed by leaps and bounds, this progress has not thus far proved to be an unalloyed blessing to the human race; for, with it, there has entered in a most insidious manner a condition which is beginning to assume a serious aspect. I wish to call attention to the abuse of surgery fostered by the multitude of hospitals which we see on every hand, not only in connection with medical colleges, in mining and lumbering towns, and in the larger centers of population, but, also in many of the smaller towns. In their legitimate sphere they are a convenience to the community as places where strangers can be taken care of when sick or injured and in cases where the necessary restraint

can not be provided at home; but, why should a patient leave a good home, to be taken care of in these commercialized institutions? If the physician attending a patient in his home would be more explicit in his directions and take time to write down the minute details of the treatment, much of the existing need of hospitals would be obviated.

The Curse of Needless Operations

However, the worst feature of these institutions is, the needless surgery performed in them, which tends to brutalize the surgeons, to make nonentities of the physicians and bring disaster on the public at large. The custom which so largely prevails, of surgeons paying to attending physicians commissions on referred surgical

cases, can not be too strongly condemned. It causes the general practitioner to lose initiative, by leaning on the surgeon, and, though shifting responsibility, he still can come in for a generous remuneration. Surgeons of nation-wide reputation have all the work they can attend to without paying any middleman's profit: but, it happens too frequently, especially in the smaller towns, that surgical aspirants resort to just such commercialism.

Notwithstanding the fact that surgery everywhere holds the unreasoning masses spellbound, there still remain a few persons who do not wish to be operated upon. As the average physician knows surprisingly little concerning the therapeutic art, he can not give the relief demanded, thus causing many to drift to the irregulars. Many, also, who are abundantly able to pay a doctor manage to "rough it out alone", because, if a member of the medical fraternity is called, he is prone, it is feared, to call an ambulance and hustle his victim off to some hospital. The usual mode of procedure is, to predict for the patient but a short term of hours of life if no operation is performed, and, if possible, to rush him to the hospital before relatives and friends can be consulted. The physician takes it upon himself to make all the arrangements with the hospital and with the surgeon, and the operation is performed at whatever time of day or night it may chance to be when the patient reaches the place. Little or no attention is there paid to any preparatory or after treatment. It may be observed that this extreme haste in taking a patient to a hospital obtains only when he has first-class credit rating or when the price of the operation is paid in advance. Many of us know of people actually having mortgaged their farms in order to satisfy some surgeon's demands.

During my temporary absence from home, my wife with great difficulty saved her brother from an appendicitis-operation, though there really was nothing the matter except that he had strained himself while breaking a colt. The surgeons gave him only a few hours to live unless he were operated upon. That was seven years ago, but, just the same, he is alive and well today. Two years ago my wife's niece was hustled to a hospital, to be relieved of an alleged tumor; the trouble, in reality, being only an overloaded stomach. Not only was a first operation performed, but,

also a second one, and, she returned in her casket.

Notwithstanding the death of this young woman her brother is in a hospital at this writing, having been railroaded there by the surgeons and operated upon for ulcer of the stomach. One ulcer was removed, but, another was treated by merely lapping over the peritoneum. Within one week after that operation, he was given toast, asparagus with its fibrous constituents, and pineapple and immediately suffered intense agony from such criminal indiscretion about his diet. In view of the fact that the second ulcer was treated by only lapping over the peritoneum, such diet as that arouses one's suspicions that the surgeons were hoping for a second operation. As gastric ulcer is a self-digestion due to lowered vitality, what more reckless thing could be thought of than to give the patient pineapple, with the digestant that its juice contains? This hospital was, by no means, in an obscure country town, but, was one of the fine hospitals in a medical center.

On account of overrating the advantages of hospitals, medical practice now tends to centralize in the cities. Before the days of good roads and motor ambulances, physicians in the smaller towns and remote country districts had the opportunity of developing their own initiative and of successfully meeting emergencies that would baffle the average city doctor; but, now, nobody who has the price of an operation, however remote from a city he may be, is safe; for, if he is injured to the point of losing consciousness he is liable to be pounced upon and hustled to a hospital. There are right now in the immediate vicinity of Colorado Springs several little towns without resident physicians, notwithstanding the fact that there are rich ranchers all about them. In former years, physicians used to do well in them, now, however, they are deserted by the medical profession, because the noses of the people are turned toward the city hospitals. In those small towns that have resident physicians, these latter stand in with the city surgeons and with them are leagued in a conspiracy against the public, in the interest of private graft.

Outside of accident-cases or perhaps an occasional strangulation of the bowels, as we have observed among those who could not or would not be operated upon, there is

no need of such a violent hurry to operate. If there were, how could so many patients live long after the allotted time given them by the enthusiastic would-be operators? Surgery is a fad, and people, like cattle, can be rounded up and lured on to their destruction.

What Causes This Condition?

Let us look a little into the causes that have gradually led up to this state of affairs. The fee-bill, with but slight modifications recently made on account of war prices of supplies, originated at a time when a physician could practice after a few months of study with a preceptor or, at the most, after a year or two in college; at a time when the cost of medical education and equipment was but a small portion of what is now required; at a time before modern sanitation had so greatly diminished the work of the practicing physician by eliminating the oldtime epidemics of acute infectious diseases and when the purchasing power of a dollar was several times as much as at present. Just think of it! Is it not a most stupendous blunder to have a physician's compensation placed at a certain fixed amount per visit? A physician, therefore, cuts his own throat whenever he perfects himself in the therapeutic art.

A doctor of my most intimate acquaintance, whose office adjoined mine, was treating a case of furunculosis with vaccines from various staphylococci. Upon my asking him why he did not give his patient a good action of the bowels and saturate his system with either calcium sulphide or with echinacea, he replied that, if he should do so, he would cure his patient with only once or twice seeing him and thus get very little out of the case; hence, the more prolonged and expensive line of treatment. I have known health-officers in some of the smaller towns to be negligent in controlling epidemics from which they were reaping rich harvests, while recently, upon the death of a neighboring physician, I felt impelled to drop some of the practice that I fell heir to because of being unwilling to take the same chances with the Harrison law such as the deceased had been taking. Upon closely questioning these drug-users, it was found that they owed their downfall to the reckless prescribing of narcotic drugs by physicians. What else can we expect under present conditions? Here, with big sur-

gical fees and commissions as a bait, is the mad rush into the profession, while medical fees are by the visit and at a rate far too low to meet the increased cost of living.

Notwithstanding these facts, the blame does not, by any means, rest entirely upon the medical profession, for, the people have in a great measure brought these evils upon themselves. If a physician does his conscientious best by his patient, he may get his pay and he may not; but, if he turns the case over to the surgeon, the latter's fee must be forthcoming before the patient goes onto the table, and the physician then and there receives his commission. Also many ailments are curable either by an operation or by a long course of less heroic treatment. If a patient commences with such a course of treatment and prematurely discontinues, naturally, the physician considers feeding the next similar case to the surgeon, or, if he has sufficient nerve, of himself operating.

Why Should Not the Family Physician Operate?

In fact, where surgery is necessary, why should not the family physician now, the same as formerly, do the operating? He has had practice in the surgical laboratory and has seen many more clinical cases than did the physician of old. At best, asepsis is only an approximation. When we consider the outbreaks and other infections that from time to time occur in hospitals, does a hospital, in the long run, as a place for surgical work, have any real advantage over a private dwelling where cleanliness obtains? The sutures come ready prepared, and the instruments and dressings can be sterilized by boiling or steaming for half an hour; but, what surgeon is there who is willing to subject his hands to such treatment? Even rubber gloves, though well sterilized, can not be otherwise than slightly contaminated in fitting them on, as the best that can be done with the operator's hands is, to thoroughly wash them, immerse them in antiseptic solutions, lock in as many germs as possible by the astringent action of alcohol and leave the patient's system to take care of the remainder.

It has fallen to my lot, on several occasions, to perform in private dwellings such operations as trachelorrhaphy, perineorrhaphy, various amputations, curettement of bone where necrosis had set in, and others that in times past were the prerogative of

the family physician; and never yet have I had any trouble from infection. In one instance, however, I had a severe case of shock to contend with, which came on twelve hours after the operation. The use of strychnine, aromatic spirits of ammonia, glonoin, and atropine, together with hypodermoclysis and frequent small rectal injections, saved the patient. It had so happened that I had had to come ninety miles to perform that operation and could not get a train back that same day. Consequently, I had to stay over night at the patient's residence. Had I not been so placed as to give my whole time to this one patient, here would have been a surgical fatality. Comparatively few die on the table, shock usually being a later complication.

One very strong argument why the family physician should perform the necessary surgery is, because he can give his patient the necessary preliminary and after treatment that the surgeon does not give, especially when so busy with surgical cases that he has the anesthesia started on another patient before he has completed his operation on the first. Also, for his own reputation as well as for the welfare of his patient, the family physician will be more careful in determining its necessity before performing the operation.

So many appendicitis-operations were unnecessarily performed, that a year ago there was pending in the legislature of South Dakota a bill requiring every removed appendix to be sent to the state laboratory, and, if it was not found to be diseased, the surgeon could not collect his fee. In fact, no such operation would ever be necessary were every case properly treated at the start. Whenever an intense pain starts in the umbilical region and centralizes at McBurney's point the patient should have rest in bed, receive saline cathartics, and cholagoges, and the pain be controlled with hyoscyamine or, in the worst cases, with codeine—never, though, with morphine, as the latter tends to mask the symptoms. Symptomatic treatment and light diet during the incipency of this ailment will prevent necrosis and suppuration and, consequently, the subsequent need of an operation.

In fact, even developed peritonitis is, by no means, always a surgical disease. No operation should be performed unless defervescent treatment, saline cathartics, sat-

uration with calcium sulphide or echinacea, together with absolute quiet, had been given a fair trial. I have had experience with a case of peritonitis in which the patient, with a temperature of 105 degrees, recovered without an operation.

No mastoid operation will ever be necessary if at the start the ear is syringed with mild antiseptic solution; and calcium sulphide, hexamethylenamin and sodium benzoate, administered internally.

Of late, lacerated cervix can be cured by the cataphoretic use of thiosinamin, as described in my article in the July, 1916, number of this journal. Piles, fistulas, urethral and prostatic diseases are all amenable to various uses of the galvanic and high-frequency currents. In any condition of fibrosis, one need never lose sight of the internal administration of chromium sulphate, a most valuable, though much-neglected, remedy. Very few, indeed, are the cases of tonsillitis that can not be cured by the local application of tincture of iodine or by the use of positive galvanism. Still, as a last resort, why should not the family physician remove the offending tonsils? Why should he not operate for hydrocele, perform necessary circumcisions, remove small external tumors, and do whatever other minor surgical work may come to him? Why should the careful physician falter at surgical procedures of even greater magnitude? The technic is simple. If only major operations were performed by specialists and general practitioners either cured by other means or operated when necessary in minor or medium-grade operations, small, indeed, would be the work of the surgical specialist if he performed no unnecessary operations!

Governmental Control

The city of Zurich, Switzerland, has, for years, had its quota of municipal physicians, and since the outbreak of the war some agitation has been going on in England concerning the taking over of the medical profession as a public utility, the same as are the police and fire departments of a city. That can be done with but very little expense to the individual member of the community, as evidenced by the contract practice in vogue in mining and lumbering communities. A small amount is taken out of the wages of each worker, nobody notices the expense, and thereby

abundant medical and hospital facilities are provided for all. Were such an arrangement extended over the entire community, everybody, regardless of financial condition, always could receive proper attention in case of sickness or accident.

To avoid graft, it is imperative that the government should supervise and control medical education, giving more complete and thorough instruction in therapeutics. Under present conditions, it is shocking how little the average practitioner one meets in counsel knows about the physiological action of drugs. Medical colleges supply the demands made upon them, in the kind of instruction imparted. At present, it is principally for surgery. Should the pendulum swing in the other direction, it will be more for therapeutics. This universal ignorance of therapeutics explains in a very great degree the alarming death

rate among the soldiers, in the various cantonments, from acute infectious diseases. Especially is this evil augmented by the fact that so many young and inexperienced practitioners, some of them even ungraduated and knowing practically nothing about therapeutics, are with the colors, occupying responsible positions.

The time soon will come when we shall have to fight the graft in our profession as we have fought chattel-slavery and the liquor-traffic; for, conditions are such that, when a physician speaks out his honest conviction that he can cure a patient without surgery, he is considered either a fool or a crank. The ways of right and justice always are unpopular, until the crisis is reached. However, let us stick to the straight and narrow way and do our part toward the elimination of dishonesty and graft from our noble profession.

An Old Doctor's Life Story

An Autobiography

By ROBERT GRAY, M. D., Pichucaleo, Mexico

[Continued from April issue, page 288.]

PREGNANCY was not a conceivable symptom to those who knew this emaciated victim of consumption. On the other hand, the keynote of labor-pains was the first greeting that arrested my attention and started me to work on that line, not caring whether the patient was a skeleton or a fat woman. After that, faith in the native profession was badly shaken—unreasonably so, it seemed to me, under the conditions and circumstances obtaining and of which, as said, I knew nothing to divert me from the correct diagnosis that was thrust upon me.

The Successful Quack

One time I had under treatment a very peculiar Irishman, a quack-doctor, who came to me from a distant town to seek relief from blood poisoning. He had escaped, by the skin of his teeth, from becoming an English prisoner, for lawless Erin patriotism, and landed with but five dollars in the town where he lived, and there set out to make a living by his wits. Besides possessing native shrewdness, he was well educated and had formed some nice associa-

tions. He told me that he had wandered the streets of the town with no hope better than the slavery of a common laborer. Finally he saw the sign of a doctor's office, and that it was for rent. The rental, he found, was two dollars a month. Quickly resolved, he planked down two dollars, then put his head to woolgathering. He opened up.

Directly a young woman appeared, with timid reluctance, and told him that she feared being somewhat in a bad way. He asked her whether she had been coquetting imprudently, with the boys, and she admitted that he had guessed it first pop. He then inquired as to her financial abilities, and was informed that she was the happy possessor of twenty dollars. Funny, that just happened to be what he would charge her for his unmatched services and received. The lass meekly parted company with her twenty. He then advised her to go home and drink a quart of cold water and not to urinate, under any circumstance, till she came to see him again early the next morning. At that interview, he told her to repeat the quart-dose of water, with the same injunction, and come back early the next

morning. But she was on deck that same afternoon, vowing she could hold on to her water not a minute longer. Feigning dismay, the budding obstetrician informed the erring Eve that the game was lost, for, his plan had been to drown that little son of a b——, but that under the circumstances there was no remedy left that would not cause her terrible pain and most likely kill her.

Not content to rest on his oars, our enterprising and resourceful Irishman wended his way to a big drug store and invested the greater part of his twenty-dollars capital in household-remedies and arranged them in his office so as to make quite a little show; and this move drew him constant small custom. The aforementioned druggist also had given him an English pricelist of active-principle tablets and granules, together with instructions how to employ them, and, after going over the matter, he got the druggist to order for him a selection of these.

The man's education and natural intelligence gave him some insight into the mysteries of correct medication, and the prevalent fevers, diarrhea, and dysenteries were so nearly of the same type that the knowledge of varying treatment was not vital, on an average, while he prudently kept on the safe side of the dosage. As it was, he was sure of better results than men of the regular profession would have with their drugstore trash and slops. And he was unreasonably successful from the start with the new medication, and soon became the leading and most-sought doctor of the community. I might recount a hundred of this man's pithy stories, of tilts with the regulars, and the tight places he sometimes got in, but, have other items for the space I might fill with his doings. He died while in my care, his condition being too far advanced when he came to consult me.

The Pathetic Story of a Brokendown Doctor

An elegant young Irish doctor came to me with letters from Paris, that certified him to have royal blood in his veins (although tainted with treachery) and with a medical education second to none of any who ever had left Paris. He was a physical wreck, consumptive, and the victim of every imprudent dissipation and vice that money could buy. He had lived fast and furiously.

I relucted to ignore my repugnance for so much intelligent accomplishment so reck-

lessly sacrificed and fain would have declined the proposition to assist him—that is, not financially, for, he had stacks of money at his command—but I was loath to become the sponsor for a brilliant man who had no respect for himself. I abhor drunkenness to such a degree that I refuse to diagnose or prescribe for a man while he is on a spree, and in that way have lost thousands of dollars, inasmuch as many of such men did not come to me when sober, the drink causing them to seek medication they did not need, but they would pay recklessly while drunk. But there was such a spell of pathos in the lackluster eyes and charm of suave eloquence in the soft low voice of plaintive entreaty that I could not steel my heart to turn to him a deaf ear and send him away with indifferent coldness. I really felt sorry for his monstrous sacrifice of a nobility of manhood superlatively admirable; yet, for him, the pitiful bud of blighted promise and withered hopefulness, I had an intense sympathy that no mere words can measure. I thought of myself in the giddy whirlpool of the maelstrom of Paris, whose seething tide, which I so luckily escaped, had engulfed him. Poor boy! Maybe he was as zealously earnest as I had been, but was more irresistibly tempted. I could have wept for him, had there been tears left in mine eyes for me to shed.

And I sent him away to the dry highlands, showing him, by the sketching of a crude map, where to build him a modest house on the summit of a rolling hillock, a mile away from a hamlet where once I had labored for a while and where now a doctor would find healthful work to do. There the balsam-laden zephyrs, sighing from the far-away Pacific, sang their soothing lullabys in lofty branches of the long-leaf pine, gently fanning the feverish brow and softly whispering of health and hope. And how I had been fondly longing a thousand times for that delicious retreat while suffocating beneath the burning glare of this relentless torrid sun. He recovered a tolerable existence and lived comfortably for ten years in that balsamic atmosphere where consumption was never known to breed, till eventually double pneumonia caught him off his guard and snapped his delicate thread of life ere he had time to put up a proper defensive fight.

Why These Reminiscences Are Written

These little fragments from the ragged edge of the past creep in upon me haphaz-

ard and are jotted down, informally, and without system, more as an index to the multitudinous vicissitudes I have passed through during the long lapse of half a century of restless activity, than as a history of a life's experiences that would fill more books than any pressure of duty could actuate me to write.

Indeed, it is difficult for me to become persuaded that I really owe any such duty as this, or that the work performed may possess any great value when completed. To me, its more serviceable feature should be that which inculcates principles of health and long life and the human capacity of extreme endurance under trying ordeals of professional peril; while, mayhap, the weaknesses of human nature recorded—painful for me as, at this late day, it may be—may cause some reckless youngsters to pause and to ponder the pitfalls to which the downward grade inevitably leads. At all events, I am doing the work, for better or for worse, with correct, if reluctant, conscientiousness, willing to persuade myself, even against what seems to me my cold and rational judgment, that it may do some good, someway, somewhere. The equivalent of this effort would have been of great service to me sixty years ago; yet, never will my eyes have seen anything like this ideal until this autobiography shall be finished, provided I am spared to see the final page of the book placed where it will belong.

A Glance at Current Events in Mexico

But now—and now—in the searing, torrid days of July—just fifty-three years today since inebriate Americans were slaughtering and mutilating one another on the plains of Manassas—now in July, 1914, that the treaty of peace between the United States and Mexico has been signed, the better class of Mexicans living around me, Mexicans who have never participated in any of the revolutions, are rising up in rebellion, actuated, by what motive I am unable to learn; nor does it seem to be public what their pretensions really are. I presume it is, to demand speedy peace.

The head and front of this new movement are wealthy men, educated in Paris and in the United States, who have suffered seriously at the hands of other rebels, and who have been absent from their ranches most of the time. One of the prominent men of this class who had ventured back to his plantation was recently killed there,

shot like a condemned soldier, in the presence of his family, by oldtime rebels who seem to be uniting with the newfledged rebels of the wealthy and influential classes. The garrisons of federal and state troops have retired toward the interior, not pursued, as yet. It is said that the new dispensation will permit no looting nor brutal killing, nor the arrest of people in their regular daily pursuits. In some later chapter, I may be able to indicate what this new departure means.

* * * *

Mental Power Sways Medicine

"Eternal spirit of the chainless mind"
The noblest sentiment ever lisped in any tongue Chillon's dungeon inspired in the grandest erratic brain that ever throbbed on earth—the loftiest spirit estranged from heaven, wandering without anchorage through the Universe! Byron! thou deathless symbol of human suffering and immortal wo! Promethean marvel of truth: "I never knew you; depart from me, ye that work iniquity!"

I am thankful that I have a different conception of God. I maintain that all that is noble in man, all that is pure, loving, and charitable, and forgiving, even justice, if you will, multiplied a ten billion times, would give us but a faint conception of the love, truth, and tenderness of God.

Think of the story of Mary Magdalene and the parable of the prodigal son; of Christ's agony in the garden of Gethsemane, of his yearning love to man and his glorious death for our sake. We are forced to believe in a Divine Being whose attributes are love and compassion—not, a retribution so cruel that it partakes of revenge. It has been wisely observed that "evil ending in evil would be the work of a fiend; evil ending in good is the work of a just God."

Think for a moment of the incredible wrong that would doom all men, even before birth, to everlasting torture. Conceive of the monstrous injustice of holding a man responsible for the inherited crimes of generations, stripping his afflicted spirit of all hope, and for a lapse for which his mental and moral blindness are in no way accountable, consigning him to eternal suffering! This is the preposterously illogical and wicked belief of those who adhere to the doctrine of Calvin, by whom, as I really believe, the innocent life of Michael Servetus

was sacrificed. We know that such acts of intolerance and narrow-minded bigotry would be impossible in Christendom today. But, why not, unless it be that the hearts of men have been moved to pity by the record of religious persecution and that reason and justice will no longer tolerate the cruel hate which inspired the Genevese theologian?

O, no! it can not be true that "an eye for an eye" and "a tooth for a tooth" have been revived from the tents of ancient Judaism. Christ, himself, refuted them, enjoining us to forgive—not, seven times, but, seventy times seven. Did He not leave the ninety and nine, to seek the one that was lost?

I believe God is often nearer to him who is in the dark and struggles blindly, even on the brink of hell, than to him who, in his moral strength—perhaps the mere fortune of temperament or heredity—has no fear of temptation, knowing not what human passion is like. As you would the more tenderly shield and cherish the child born or become physically or mentally deficient, so, when a man is spiritually weak, perhaps in the infancy of his moral life, God may, in His infinite tenderness and love, bend closer to His erring, purblind child as he gropes his way along the abyss of moral degradation, protecting him with a father's solicitude and care and rejoiced to forgive him over and over again, because of the great love He bears him. All He asks of us, is sorrow for our transgressions and a fervent desire to do His will.

God warns us, through the agencies of reason and common sense, as well as by a more or less enlightened conscience, that, if we transgress certain moral laws, we suffer, though His Father's heart is wrung in witnessing our folly, and His divine love is moved to compassionate solace even though we repeat the offense. To suppose otherwise, would be to conceive of God as the deliberate torturer of His own children—as much more incredible in a Heavenly Father than in an earthly parent, as God's all-embracing love surpasses our own. It is true however, that conscience is amenable to education. And herein man's responsibility is manifest, just as a man living in an intelligent community is held accountable for absolute ignorance.

This is my first sermon, and probably it will be my last. Belonging to a profession which, of all others, is brought daily face to face with the solemn verities of life, the constant contemplation of human suffering has left little room in my thoughts for the abstractions of theological controversy.

A physician who by nature is deeply reverential—though not religious in the narrower sense—will come to ponder far more seriously and, be it said, profitably, than the clergy, the inscrutable phenomena of life and death. It is a tacitly recognized and general principle among physicians, to observe rather than dispute when the profounder themes of life are concerned, their noblest energies being exercised in the world of positive action—not in that of negative theory. If queried as to his belief in Scriptures or his conception of a future life, the practitioner's natural answer might be, "Would you like to visit the smallpox hospital with me this morning?"

Union, Not Separateness

Our ancestors, when they started a new town, set apart a tract of land for a training-field, close by the church. But, after all, the real training-field was in the meeting-house, indoors. Their meeting-houses were the great power-houses from which went forth the spiritual and moral influences that inspired and controlled the whole life of the people.

People say that the Puritans' plan is old-fashioned. But, after all, what does the world need? The world needs more union, and less separation. It needs more of the "together," and less of the "alone." It needs unity of spirit, instead of diversity of form. Everyone should give his countenance, presence, and help in some religious society. Men are working together in other spheres of life: syndicates for good purposes, rings for bad purposes, caucuses for politics, societies for reform are the special signs of the times.

A man may ask, "What good will it do me?" We want to say that no one can help himself much unless it is in his heart to help his fellow men.

Where is the home in civilized land that has not felt the benefit of the work of poetic genius! What victim dost thou animate this present night?

[To be continued.]

What Others are Doing

DICHLORAMINE-T FOR EYE INFECTIONS

Many antiseptic agents have been used, with more or less satisfactory results, in the treatment of infections of the cornea and conjunctiva. As a rule, none of those heretofore employed seemed to exert a very powerful germicidal action, and for this reason in many ocular infections they have not been particularly effective.

Drs. A. S. and L. D. Green, of San Francisco, in an article published in *The Journal of the American Medical Association* for April 27, announced the exceedingly interesting discovery that Dakin's new oil-soluble antiseptic, the dichloramine-T, can be used safely as a conjunctival antiseptic, without danger to the tissues, and with exceedingly satisfactory results from a therapeutic point of view. They have been using the dichloramine-T in 0.5-percent oil-solution, instilling it every hour, about three or four drops being used at each application. The instillations cause some smarting, which, however, lasts only a moment or two and is easily borne even by children.

In this paper, several cases are reported, the first being that of a boy of 12, who suffered from trachoma of several years' duration. All the customary remedies and procedures had been employed, including carbon-dioxide snow and copper sulphate, besides rolling and grattage, without any permanent benefit. The vision was greatly impaired, owing to corneal opacities and pannus. Finally, the 0.5-percent dichloramine-T solution was tried, being instilled once every hour. After three-weeks' treatment, the boy was dismissed apparently cured, and six months later no recurrence had taken place.

Another patient was a girl of 5 years, who had been treated for several months for phlyctenular conjunctivitis. When first seen, she was suffering from acute reinfection. The eye was swollen shut and there was a purulent discharge. She

was immediately placed upon the dichloramine-T treatment, a few drops of the 0.5-percent solution being instilled every hour for twenty-six hours, then every two hours. After the fourth day, the child was dismissed from the hospital, no further treatment being required.

The third case was that of a Japanese child, aged 4 years, the left eye being so swollen that the cornea could not be seen. The following day, under dichloramine-T treatment, the swelling had receded so that the intact cornea could be seen, and at the end of forty-eight hours the eye was open. In one week the child was dismissed.

The fourth was a typical case of gonorrheal ophthalmia in a child of 3 years. The 0.5-percent dichloramine-T solution was instilled into the eye every two hours, and an ice compress was applied. After twelve hours, improvement being slight, one drop of a 1-percent silver-nitrate solution was instilled, this treatment being followed by the use of dichloramine-T solution every hour, day and night, until at the end of thirty-six hours the swelling had gone down so that the eye was open and there was only a slight discharge. On the third day, the conjunctiva was entirely void of bacteria. On the fifth day, the child was dismissed.

The results obtained in these cases undoubtedly lead us to hope that in dichloramine-T there has been discovered a germicide that will prove effective in thousands of cases of ocular infection in which most of the antiseptics are proving unsatisfactory. Should it prove curative in trachoma it will, indeed, be a godsend.

THE WASSERMAN REACTION: ITS USE AND ABUSE

In *The Lancet* for May 4, Hugh W. Bayly shows that the Wassermann reaction is not specific for lues for the reason that it is not in any sense an immunity-reaction: It is neither a test for toxin or one for antitoxin, but, the reaction is only

a remote consequence of syphilis-infection. It may be absent in undoubted florid syphilis and may be present in other diseases when, apparently, syphilis can be excluded.

Despite these facts, it can not be denied that the Wassermann reaction is of very great clinical value and that, properly evaluated and in conjunction with other symptoms, it may be utilized to determine the diagnosis either positively or negatively.

Bayly very aptly calls the Wassermann reaction a symptom. Now, a symptom does not become useless for diagnosis because it is not pathognomonic; and it is the sum of various symptoms, none of which may be pathognomonic, that establishes diagnosis. He considers the Wassermann reaction as one of the most valuable symptoms of syphilis infection that we possess, but, believes that a diagnosis can not be based with certainty upon this symptom alone, even if the reaction is strongly positive, and that weak positives are useless for diagnosis.

A negative Wassermann reaction is of especial value when lesions of a doubtful nature are present and render it highly improbable that syphilis is the cause of the lesions. A negative Wassermann reaction of the cerebrospinal fluid is probably sufficient evidence to exclude general paralysis. A negative reaction also indicates that the treatment given has been efficient; still, one or two negatives constitute no proof of permanency of cure.

EMETINE HYDROCHLORIDE IN ACUTE AFFECTIONS OF THE LUNG.

The Practitioner for May abstracts a thesis by Million, in which the author deals at length with the employment of emetine hydrochloride in acute inflammatory and congestive affections of the lungs, because of its depleting and antiphlogistic effects. Particular attention is devoted to the use of the drug in the treatment of bronchopneumonia accompanying or resulting from measles.

In every attack of bronchopneumonia, there are two factors, one of infection and the other of congestion. Emetine has no effect upon the infectious element, but it exerts considerable influence upon the active congestion due to inflammation. Digi-

taline, on the other hand, is useful for counteracting the passive congestion produced by circulatory disturbances, owing to a failing heart and dilatation of the right ventricle.

In addition to its effect upon congestion, emetine has a favorable action upon the temperature and upon the bronchial secretions. In this respect, it possesses a very great advantage over ipecacuanha because it does not cause vomiting and the depressing effects arising in consequence. It often brings about very quickly a considerable fall in the temperature, which, Million considers, may be looked upon as being of favorable prognosis in the development of the disease. In very many cases, this fall of temperature has been achieved within four or five days and sometimes in two or three. Defervescence then proceeds satisfactorily, although occasionally deferred until the sixth day.

The treatment with the emetine is carried out by giving daily hypodermic injections for four or five days. More are but very seldom required. After an interval of six or seven days, if a relapse occurs and the previous effects of the emetine have been satisfactory, four more injections are to be given. The daily dose should be, for children under one year, 1-4 to 1-2 cg.; at the age of from one to four years, 1 cg.; and at over four years 2 cg. The injections should be made into the outer side of the thigh. They cause neither pain nor any local reaction.

The advantages of the use of this drug in the bronchopneumonia of children may be summed up thus: (1) Antipyretic effect sometimes considerable; (2) expectorant action; making the secretion more fluid; (3) relieves the congestion—its most important effect; (4) is not a depressant; (5) easy to use, even in babies; (6) therapeutic doses not toxic.

SULPHUR IN PSORIASIS

In *The Lancet* for July 28, 1917, Louis Bory describes a new treatment for psoriasis, based upon the relationship between this condition and tuberculosis. His formula is:

Precipitated sulphur.....	Gm. 0.20 (grs. 3)
Eucalyptol	Gm. 20.00 (drs. 5)
Oil of sesame.....	Gm. 80.00 (ozs. 2¾)

The oil is warmed until the sulphur is completely dissolved, then the eucalyptol is

added. A dose of 5 mils of this solution ($=0.01$ of sulphur) is injected deeply into the gluteal muscles. In one case, a single injection caused large confluent patches, extending all over the body, but disappearing in several days.

PROPER CONDITIONS OF LABOR IMPERATIVE FOR WOMEN WAR-WORKERS

"In view of the urgent necessity for prompt increase in the volume of production of nearly every article required for the conduct of the war, vigilance is demanded of all those in any way associated with industry, lest the safeguards with which the people of this country have sought to protect labor should be unwisely and unnecessarily broken down."

This sentence sounds the keynote of the industrial policy of the two great divisions of the United States Army—today placing numberless contracts of fabulous size and value—the Ordnance Department and the Quartermaster's Department. In "General Orders No. 13," from which it is quoted, issued not long ago by the Ordnance Department and later adopted by the Quartermaster General, there are set forth in some detail the principles of this policy, and in no uncertain words the reason for its existence. "It is a fair assumption," it goes on to say, "that for the most part these safeguards are the mechanisms of efficiency. Industrial history proves that reasonable hours, fair working-conditions, and a proper wage scale are essential to high production." Enlightened patriotism, in other words, demands, not that the workers shall work long hours at top speed for the least possible wages, but, that for the sake of output they shall make a steady reasonable expenditure of strength for a reasonable length of time under proper conditions. We have long heard these things demanded for the good of the workers, but, now a new partnership has been formed. Efficiency and humanity go hand in hand.

From the time of our entrance into the war, the importance of conserving labor standards has been emphasized and re-emphasized by important officials in the Government. The president himself in welcoming at the White House the British Labor Commission which visited this country last spring, said that "nothing would be more deplorable" than "to set aside even

temporarily the laws which have safeguarded the standards of labor and of life," when we are fighting in a cause which "means the lifting of the standards of life." The Women's Committee of the Council of National Defense has taken, as its official standards for the employment of women, the standards issued by the Ordnance and Quartermaster's Department as part of General Orders No. 13. The Departments of Women in Industry of the Women's Committee throughout the country are doing and will do all in their power to put this endorsement into practical effect, with the cooperation of the Department of Women in Industry of the Women's Committee at Washington.

What are these standards and why are standards for working women of such prime importance to the nation at this time? Proper conditions of women's labor have always been of peculiar importance to the state. In peace times, the United States supreme court held that, for the sake of future generations, it was constitutional to limit the working-hours of women to eight hours a day. Today in war time, limitation of hours is important for an additional reason. Modern warfare is not fought in the trenches alone. The army at the front is helpless if the second line of defense, the army in the factories, is not able to keep up production of supplies. In emphasizing the necessity of rigid enforcement of existing legal standards and urging that, "even where the law permits a nine or ten-hour day, effort should be made to restrict the work of women to eight hours," the Ordnance Department has in mind primarily the output of munitions.

In urging the prohibition of night work, they state that "English investigators have found that night work for women involves proportionately larger costs for supervision and protection." The human cost of night work has long been known to social investigators. A world war has brought out its pecuniary extravagance.

The Saturday half-holiday—"an absolute essential for women, under all conditions"—adequate meal, and rest-periods, and one day's rest in seven also find place in this government list of industrial standards. Even with the best will in the world and despite the most ardent spirit of sacrifice, human beings can not do continuous work without losing their efficiency. The Eng-

lish workers, who toiled such long hours at the beginning of the war, did so willingly for the sake of their soldiers. But, as the war went on, the sickness-returns showed an alarming increase. The general health of the people was going down. It may be said without hesitation, having regard to the experience of the British, that it is uneconomical, it is unwise, and it is bad management to work men or women abnormally long hours, because it does not pay in the end.

Proper regulation of hours alone, however, will not solve the problem. The Ordnance Department knows that it will not help production to limit hours if the men and women who work these hours are not secured in the fundamental necessities of life—if they are hungry, poorly clothed, improperly housed.

Therefore, it is urged that standards of wages "already established in the industry and in the locality should not be lowered," "that minimum wage rates bear a constant relation to increases in the cost of living," and that, in the case of replacement of men by women, there should be equal pay for equal work. In justice to our soldiers at the front, the standards of the jobs they have left behind must not be lowered by these new recruits, who will, in increasing numbers, take their places in the industrial army.

TOBACCO, FLEAS AND PLAGUE

In an interesting paper under the above title, printed in the February number of *The Indian Medical Gazette* (cf. *The Lancet*, May 4), Mr. S. Mallanah, of Hyderabad, India, reports that tobacco kills fleas practically instantaneously, and his suggestion is that tobacco-leaves can be used as a preventive measure, which eventually would stamp out the plague. He finds that, when tobacco-leaves are spread over the floors of houses where people sleep, the fleas, as they enter the rooms, perish, with the result that there is no subsequent infection.

In his investigations, some 52 houses in highly infected areas were "tobaccoed" according to his method. The leaves were stitched on to a piece of matting and laid on the floor. The same number of houses of the same type and in close proximity were left untouched as controls. Despite the fact that the floor was strewn with tobacco, plague here and there did break

out—a fact which the writer attributes to a faulty method, while the number of houses tobaccoed that enjoyed complete immunity was certainly remarkable. Out of 52 houses that were thus tobaccoed, only one became infected (and that, it is stated, not despite the use of the tobacco), and, out of 52 control-houses, seven became infected; which shows that the tobacco apparently failed in 14.2 percent of cases and succeeded in preventing plague in 85.8 percent of the cases under experiment.

In conclusion, the writer expresses his firm belief that, if the government were to spend a fraction—he suggests one-eighth—of what it has actually spent in carrying out his method, it would "save the misery and devastation of thousands of homes caused by the appalling death rate from this calamity."

Tobacco, of course, is a well-known insecticide, still, we are not aware that it heretofore has been reported as being so prompt and effective a pulicide. The method might, with advantage, easily be tried in cases where *pulex irritans* is not known to be a disease-carrier, but, all the same is a pest.

THEY ARE SELLING BONES FOR FOOD IN ENGLAND

Over in England, they are selling bones at the rate of five pounds for one shilling. Policemen regulate long lines of people patiently standing out on the sidewalks,



Bones—Four Lbs. for 1 Shilling.

waiting, not for their favorite matinee idol to pass, but, for a chance to enter a food-shop to buy a small quantity of food. It takes about three minutes for the shopkeepers to dress their windows over there,

merely because there are, perhaps, but a few cans of condensed milk and a box or two of corned beef to be displayed.

Yet, over here in America, bones, nay, even fats and precious scraps of meat are

tribute to the support of the hundreds of thousands of United States troops now on the other side. The food shortage is real. Save food and "Carry On".

GASOLIN-DERMATITIS

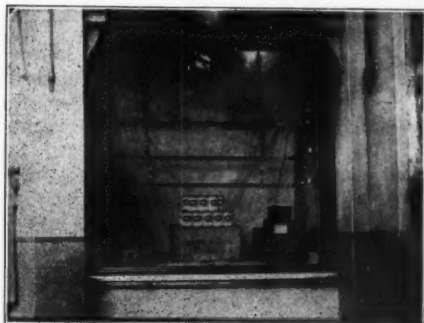
During nearly two years with the Royal Naval Air Service in Flanders, Surgeon G. B. Page, of the Royal Navy reports (*Pract.*, May) that he has seen a number of cases of gasolin-dermatitis.

This condition results from the more or less prolonged contact of gasolin-soaked



Line Waiting for a Chance to Buy Food.

going into the garbage-pails! Although in many cities there were long lines of people waiting this winter for supplies of coal, there has as yet been no pinched-faced mob pleading for food. True, there frequently are long lines of people on the street, but, mostly they are buying tickets to shows!



Window Displays Are a Simple Matter.

In the busy streets in towns and cities, shopkeepers display elaborate arrangements of all kinds of delicacies in their showcase-windows. They would scorn a "display" of corned beef and condensed milk!

The accompanying pictures are from the Official Press Bureau in London. They were sent over to this country for the express purpose of showing America what England really is facing. A country in such straits not only needs help herself, but, can not possibly be expected to con-



The Empty Meat Stall.

tributing to the support of the hundreds of thousands of United States troops now on the other side. The food shortage is real. Save food and "Carry On".

clothing with the skin and is a fairly frequent concomitant of aeroplane crashes. The occupants may be pinned by wreckage beneath a burst tank, and, after being extricated, they may be too dazed or hurt to remove their flying-gear so as to allow the gasolin to escape. Inexperienced pilots, though otherwise unhurt, may delay changing their clothes until the burning pain warns them that something is wrong. Less frequently the condition is brought about during an ordinary flight, because of leaking tanks or connections; also, the author has seen two cases which were not related to aviation.

The lesion produced resembles exactly a burn or scald of the first and second de-

gree; that is to say, there is erythema and some vesication, and considerable burning pain. The area involved often is large, that is, both legs, thighs and feet.

As regards treatment, it is worth while noting that grease of any sort increases the discomfort. Lead lotion applied on lint or zinc-carbolic lotion (zinc oxide, drs. 3, suspended by glycerine, oz. 1, in 1 percent carbolic acid solution to oz. 8) sponged on are the best applications at first. These may be followed by a simple dusting powder when the symptoms subside, a process which is fortunately rapid. The affected limbs should be left uncovered in warm weather, or else a cradle used to support the bed-clothes.

The author emphasizes the importance, in case of aeroplane accident, of noting whether the patient's clothing is saturated with gasolin and, if it is, to remove it as soon as circumstances permit. Incidentally, it may not be amiss to point out that naked lights and smoking in the vicinity of an aeroplane crash (and this is true of automobile crashes likewise) are forbidden for the reason that usually the debris and the surrounding ground are covered with gasolin.

COLLOSOL MANGANESE IN FURUNCULOSIS

The routine treatment of boils and other deep-seated coccogenic affections, such as ecthymatous impetigo and some cases of acne often is most disappointing. For furunculosis, some authorities lay stress upon constitutional treatment; and in certain cases, as where the process is associated with diabetes, this obviously is important. Others rely, rather, upon the local application of antiseptic agents, with a view to absorbing the boils. But both forms of treatment frequently fail. In many instances, boils appear in succession, and, when at last the dismal procession ends, this often appears to be less the result of treatment than because the disease has run its natural course. This is true of vaccine-therapy, as well as of the earlier methods. Sometimes the inoculations appear to arrest the disease; in other cases, they signally fail to do so.

Under these circumstances, Sir Malcolm Morris (*Brit. Med. Jour.*, Apr. 20) decided to investigate the treatment with collosol manganese, concerning which Mr. J. E. R.

McDonagh, at the General Hospital at Etaples, reported some time ago. Collosol manganese was administered intramuscularly to patients with long-standing and obstinate skin diseases, and with the most pleasing results. Incidentally, there was observed a great improvement in the general health of the patients, being manifest within a few days of the first injection.

Collosol preparations are colloidal preparations made by the Crookes Laboratories, London, England, where most of the work on the subject of colloids, in England, has been done. On the use of these substances, clinical reports have been published especially by Sir Malcolm Morris, for instance, in *The British Medical Journal* for May 5 and 12, 1917. The literature on colloids has assumed somewhat terrifying proportions and is not quite easy to understand without special training in the subject. However, the theory of colloidal solutions, which dates back to 1861, when Thomas Graham published his first papers, was discussed at some detail in the same publication, in the issue of February 3, 1912, on page 252. The Abstractor will prepare a special article on the subject of colloids, in the near future.

ALOES FOR INSECT-BITES

Professor Pognat, of Geneva, has revived (*Practitioner*, May) the formerly extensive local use of aloes. On the strength of several personal experiments, Pognat concludes that the application of a saturated alcoholic solution of aloes is of material benefit in the case of bites by mosquitoes and other insects. The place is rubbed well with a pledget of wool soaked in the tincture, or even with the moist end of the cork, when no local or general reaction will be produced—neither swelling, redness nor pain. However, this good effect is obtained only if the application is made soon after the bite is felt. Pognat himself is particularly sensitive to wasp-stings. On one occasion, he was stung in three places on one hand, but, the application of tincture of aloes quite prevented the usual effects from appearing. Equally good effects follow its use in stings from bees and other poisonous hymenoptera. He has not found out as yet what the neutralizing substance is in aloes, but, he is extending his observation to the bites of venomous snakes.

Miscellaneous Articles

Studies on Food Economics

XIV. Cookery of Vegetables

MY reader will recall Haller's statement previously referred to, "*Dimidium corporis humani gelatinum est*," meaning that half of man's substance is gelatin or that which by cookery and digestion becomes gelatin. In the vegetable structure, we encounter a close analogy to this. Here, the cellular structure is more clearly defined than in the animal, as may readily be seen with the aid of the microscope of moderate power.

Pluck one of the fibrils that you see shooting down into the water in hyacinth-glasses, or, failing such, take any other succulent rootlet. Crush it between two pieces of glass and examine it. At the end, there is a loose spongy mass of rounded cells; these merge into oblong rectangular cells surrounding a central axis of spiral tube or tubes or greatly elongated cell structures.

Take a thin slice of stem or leaf or flower or bark or pith, examine in like manner, and cellular structure of some kind will display itself; clearly demonstrating that, whatever may be the contents of these round, oval, hexagonal, oblong or otherwise regular or irregular cells, we can not cook and eat any whole vegetable or slice of vegetable without encountering a large quantity of cell-wall. This cell-wall structure constitutes far more than half the substances of most vegetables, and, therefore, demands prominent consideration.

This substance exists in many forms and with widely differing physical properties, but, with very little variation in chemical composition—so little that in many chemical treatises cellular tissue, cellulose, lignin, and woody fiber are treated as chemically synonymous. Thus, Miller says:

"Cellular tissue forms the groundwork of every plant and, when obtained in a pure state, its composition is the same,

whatever may have been the nature of the plants that furnished it, though it may vary greatly in appearance and physical characteristics; thus, it is loose and spongy in the succulent shoots of germinating seeds, and in the roots of plants such as the turnips and the potato; it is porous and elastic in the pith of the rush and elder; it is flexible and tenacious in the fibers of hemp and flax; it is compact in the branches and wood of growing trees; it becomes hard and dense in the shells of the filbert, the peach, the coconut, and the phytelphas (or, vegetable ivory)."

Chemically, in all these instances, it is known as carbohydrate, being composed of carbon and the elements of water (which, by the way, must not be confounded with the hydrocarbons, the compounds of carbon and hydrogen, with no oxygen, such as petroleum, fats, essential oils, and resins).

However, there is some little chemical difference between wood tissue and the pure cellulose that we have in cleansed cotton and linen and in the pure paper pulp used in making the filtering paper for chemical laboratories and which burns without leaving a weighable residue of ash.

The woody forms of cellular tissue owe their characteristic properties to an incrustation of lignin which often is described as synonymous with cellulose, although this is not so. It is composed of carbon, oxygen, and hydrogen, the same as cellulose, but, the hydrogen is in excess of the proportion required to form water by combination with the oxygen. My own view of cellular structure (lignum) is, that it is a combination of a carbohydrate with a hydrocarbon.

Certain animals (the beaver, for instance) possess the power of digesting ligneous material. The whole of the beaver's

stomach, and more especially that portion of the alimentary canal called the cecum, often is found crammed with fragments of wood and bark.

There is a story about Marie Antoinette who, at the beginning of the French revolution, on being informed of a famine in the neighborhood of the Tyrol and of the death by starvation of some of the peasants there, remarked, "I would rather eat croutons than starve!" "Croutons," translated in English as pie-crust, was understood by the French nobles to mean pastry, and, so, they surrounded her and giggled at the ridiculous conceit. However, they, in their ignorance, were not aware of what the queen alluded to. What she meant by croutons was the covering made of flour and water, and sawdust, with which these peasants cooked their meat, by enclosing it in this rolled dough, either by baking, or on embers. This baked dough, called croutons, is fed to the pigs, who seem to digest it thoroughly, sawdust included. Hence, the Queen meant, "she would rather eat 'pig-food' than starve!"

When on the subject of cooking animal food, I had to define the cooking-temperature as determined by that at which albumen coagulates, and to point out the mischief arising from exceeding that temperature and thus rendering the albumen horny and indigestible.

No such precautions are demanded in the boiling of vegetables. The work to be done in cooking a cabbage or a turnip, for example, is, to soften the cellular tissue by the action of hot water; there is nothing to avoid in the direction of overheating. Even if the water could be raised above 212 degrees, the vegetables would be improved, rather than injured thereby.

The question that now naturally arises is whether modern science can show us that anything more can be done in the preparation of vegetable tissue than the mere softening in boiling water.

The same occurs in ordinary commercial starch at 320 degrees, the difference evidently depending upon the water retained by it.

If the heat is continued a little beyond this point, the starch is converted into dextrin, otherwise named British gum, gommeline, starch gum and Alsace gum because of its resemblance to gum arabic—for

which latter it is now very extensively substituted. Solutions of this in bottles are sold in the stationers' shops under various names for desk-uses.

The remarkable feature of this conversion of starch into dextrin is, that it is accompanied by no change of chemical composition. Starch is composed of 6 equivalents of carbon, 10 of hydrogen, and 5 of oxygen— $C_6H_{10}O_5$, or, 6 of carbon and 5 of water or its elements.

Dextrin has exactly the same composition; so, also, has gum arabic, when purified. But, their properties differ considerably.

Starch, as everybody knows, when dried, is white and opaque and pulverent; dextrin, similarly dried, is transparent and brittle; gum arabic, the same.

If a bit of starch or a solution of starch is touched by a solution of iodine, it becomes blue, or almost to blackness if the solution is strong; no such change occurs when iodine solution is added to dextrin or gum.

A solution of dextrin containing potassa changes to a rich blue color when a little sulphate of copper is added; no such effect is produced by gum arabic. Thus we have an easy test for distinguishing between true and fictitious gum arabic.

The technical term for describing this persistence of composition with changes of properties is, isomerism, and bodies thus related are said to be isomeric with each other.

Another distinguishing characteristic of dextrin is, that it produces a righthanded rotation of a ray of polarized light. Hence, its name—from dexter, the right.

The conversion of starch into dextrin is a very important element of the subject of vegetable cooking, inasmuch as starch food can not be assimilated until this conversion has taken place, either before or after we eat it. I, therefore, will describe other methods by which this change may be effected.

If starch be boiled in a dilute solution of almost any acid, it is converted into dextrin. A solution containing less than 1 percent of sulphuric or nitric acid is sufficiently strong for this purpose. One method of commercial manufacture (Payen's) is, to moisten 10 parts of starch with 3 of water containing 1-150 of its weight of nitric acid, spreading the paste

upon shelves, allowing it to dry in the air, and then heating it for an hour and a half at about 240 degrees F.

However, the most remarkable and interesting agent in effecting this conversion is diastase. It is one of those mysterious compounds that have received the general name of ferments. They are disturbers of chemical peace, molecular agitators that initiate chemical revolutions and which may be beneficent or very mischievous. The morbid matter of contagious diseases, the venom of snake-bite, and a multitude of other poisons are ferments. Yeast is a familiar example of a ferment, and one that is best understood.

I must not be tempted into a dissertation on this subject, yet, it may be stated that modern research indicates that many of these ferments are microscopic creatures that link the vegetable with the animal world; and they may be described as living things, seeing that they grow from germs and generate other germs that produce their like.

Where this is proven, we can understand how a minute germ may, by falling upon suitable nourishment, increase and multiply, and thus effect upon large quantities of matter the chemical revolution above named.

I already have described the action of rennet upon milk, and seen what very small quantity produces coagulation.

There appears to be no intercession of living microbes in this case, nor have any been as yet demonstrated to constitute the ferment of diastase, although they may be suspected. Be this as it may, diastase is a most beneficent ferment. It communicates to the infant plant its first breath of active life and operates in the very first stage of animal digestion. In a grain of wheat, for example, the embryo is surrounded with its first food. While the seed remains dry above ground there is no assimilation of the insoluble starch or gluten, no growth, nor other sign of life. But, when the seed is moistened and warmed, the starch is changed to dextrin by the action of diastase, and the dextrin is further converted into sugar. The food of the germ thus gradually rendered soluble penetrates its tissues; the germ is thereby fed and grows, unfolds its first leaf upward, throws downward its first rootlet, still feeding on the converted starch, until it has developed the organs by which it can

feed on the carbonic acid of the air and the soluble minerals of the soil. But for the original insolubility of the starch, it would be washed away into the soil and wasted ere the germ could absorb it.

The maltster, by artificial heat and moisture, hastens this formation of dextrin and sugar; then, by a roasting heat, kills the baby plant just as it is breaking through the seed-sheath.

Diastase may be obtained by simply grinding freshly germinated barley or malt, moistening it with half its weight of warm water, allowing it to stand, and then pressing out the liquid.

One part of diastase is sufficient to convert 2,000 parts of starch into dextrin, and from dextrin to sugar if the action is continued. The most favorable temperature for this is 140 degrees F. The action ceases if the temperature be raised to the boiling-point.

[To be continued.]

A. T. CUZNER.

Gilmore, Fla.

NATIONAL WAR SAVINGS DAY MUST BE MADE BIG SUCCESS

The National War Savings Committee, which is carrying on, through its state and local committees, a Nation-wide campaign to get all the people on or before June 28 to pledge themselves to save to the utmost of their ability and to buy War Savings Stamps with their savings, has given out the following statement:

"Those of us who remain at home while others do the fighting have an ever-increasing number of opportunities to do definite and highly important work for our country. We wish to do this work as an expression of the gratitude we feel in being privileged to continue at our usual tasks, to enjoy the loving companionship of our families, to meet freely with our friends and neighbors, to enjoy all the security of life and most of the pleasures and the economic privileges of peace times while other men, who have had to put aside all these things, are fighting our battles for us on the sacred soil of France and on the high seas.

"Our new opportunity to serve comes as a result of designating June 28 as National War Savings Day, a day on which all men and women of sufficient years to appreciate the day's significance are called upon to pledge themselves to save to the ut-

most of their ability and to conserve all possible labor and materials for the Government, and to buy War Savings Stamps with their savings. Our part is to do everything possible to make this day stand out among the great days of the war.

"Could any one of us be asked to do less than this? Could any one of us refuse to do so little a thing to win a war for the world's freedom? Could any one of us put aside this plea for saving while all Europe is crying out in its agony to be released from the clutches of the monster that is befouling all it touches? Could we refuse so simple a thing and at the same time ask other men to give their lives that our own precious lives be spared and our firesides be kept safe from the Hun?

"Our duty is clear, our privilege is great, our sacrifice is little, our work is important.

"National War Savings Day is to be the great rallying day on which everyone in the country is expected to pledge himself or herself to save and economize. This saving and economizing will first of all leave in the markets a greater supply of labor and materials for the use of the Government with which to fight the war. And then the money savings of the individuals are to be invested in War Savings Stamps.

"What the Government asks us to do is to pledge ourselves to buy at definite periods with our savings a specific amount of War Savings Stamps. The thing to be accomplished is to get subscriptions which will take care during the balance of the present year of the unsold portion of the \$2,000,000,000 of War Savings Stamps authorized by the Congress.

"When one stops to think of the matter, it is really a small thing to raise \$2,000,000,000 in a country of more than 100,000,000 people. If everybody would do his share, it would be necessary for each person to subscribe to only \$20 worth of stamps.

"The duty of us at home is to see to it that the entire amount is subscribed. We must work to that end. We must add to our already great army of war savers. We must make more sacrifices ourselves and urge sacrifices upon others. National War Savings Day *must* be made the great success all of us hope for."

[Although War Savings Day will have passed into history by the time this issue

reaches our readers, the message contained in this article still must be heeded. Let everybody who can possibly do so invest a stated amount from time to time in these Government securities, and thus help to win the war.—Ed.]

CHRONIC GASEOUS INTESTINAL CONSTIPATION

Blessed are those who live, eat, sleep, and work near a toilet-closet. Yea, doubly blessed are those whose bowels make it necessary to make the use of it necessary at least three times every twenty-four hours. Very efficient bowels in eliminating waste material from the alimentary canal normally are not always very accommodating to the happy possessor.

The filling up of the bowels with noxious gases is a sin against the spirit of man, an atrocious neglect of the body, and a nuisance when the gases are expelled in a toilet-closet and an abomination of stench to the region thereabout. Unfortunately, but a few are able to expel it at all, so that the bowels become distended to the limit of the tube with toxic foul gases, thereby inhibiting all the functions of the body and the mind; and this is the basis for much immoral conduct, neurasthenia, and insanity in young and in old. The toxic substances enter into all the tissues of the body, resulting in selfpoisoning and so depressing the functioning of all the organs of the body.

The great volume of the gases in the large intestine mechanically distends the cecum, the ascending, transverse, and descending colon, thus preventing intestinal peristalsis, and resulting in fecal stasis, constipation, diarrhea, and prolapsed, pouched, kinked, flexed sections of the large intestine in its effort to accommodate the great volume of surging gases and the foul imprisoned contents of the large intestine.

No wonder feces are so often found in the ascending colon and other portions of the intestine and that stasis and constipation of the bowels exist so universally in man, when gallons of toxic gases are confined in the large intestine by the ileocecal valve and the sphincter of O'Beirne or the third sphincter muscle at the upper end of rectum. The large intestine is some five feet in length and 2 to 2 1-2 inches in diameter; therefore capable of holding several gallons of foul gases, which crowd out

the abdominal walls for several inches, push up the diaphragm, press down the kidneys and the pelvic organs, besides exciting the generative organs and producing lustful dreams, thoughts and conduct. Pain is experienced in the region of the heart, appendix, ovaries, uterus, bladder, sigmoid flexure, in fact, more or less all over the abdomen and the sides and back are often involved in this painful area; also, nervousness, vertigo, unrestful sleep, irregular circulation of the blood, with colicky pains in the region of the greatest gaseous disturbance—which is usually in the cecum and sigmoid flexure. The ends of the gas-filled tube naturally are disturbed most.

The rectum is narrower at its junction with the sigmoid flexure—(sphincter of O'Beirne), and in all cases of chronic proctocolitis there is more or less occlusion in this region, some 5 inches above the anal vent. The shutting up of the bowels causes undue retention of feces, which become very putrid, forming or generating great volumes of gases, which, in turn, cannot be expelled. Three sources of self-poisoning are constantly kept in operation by the absorption of the inflammatory exudates and toxic feces and gases, and great nervous disturbance takes place from the constant mechanical pressure on the tissues and organs.

Gaseous constipation is a very serious matter, as it invades the whole length of the gastrointestinal canal, disturbing, displacing organs and constantly irritating the involuntary and voluntary nervous systems, so that rest is unknown to the weary mortal. Its vicious circle of poison and irritation eclipses all that may be said about fecal stasis, which never balloons the bowels or presses organs out of place as does gas in its effort to get somewhere and thus lessen muscular tension, so wearisome and exhausting to body and mind.

The human body is only a blotting paper for the gastrointestinal canal, absorbing the normal as well as the abnormal substances. Premature age, intestinal autointoxication, autotoxemia, and neurasthenia indicate that the "gastrointestinal blotter" has become quite foul, full, and useless (like an ancient paper ink-blotter on a desk, ready for the waste-basket) unless it can be sterilized and thus prepared for future usefulness. Humans have no foresight or efficiency for bodily hygiene, therefore, men soon become

filled with deleterious substances, and thus subject to many ills.

Gasity, or flatulence and fecal foulness of the large intestine, is an insidious, progressive secondary symptom of many years' duration, the cause of which may usually be traced to infancy, as a result of wearing a toxic diaper, this setting up inflammation in the ahorectal canal, which in time results in proctocolitis, with more or less stricture of the bowels, involving the sphincter of O'Beirne at the rectosigmoid juncture—as well as the bowel above and below the sphincter and flexed region of the gut. This is a most important diagnostic region in all questions of abnormal bowel elimination, as normal elimination should take place three times in twenty-four hours.

The infant wearing a toxic diaper, with the setting up of proctocolitis, makes this a universal ailment, and the great majority of chronic sufferers from fecal and gaseous constipation never knew what it was to have a normal impulse to stool. Therefore, they should not be accused of neglecting an impulse to defecate.

The gastrointestinal apparatus is to the body of a man as a pot filled with soil is to a plant growing in it, and in both instances the nutritive conditions must be normal or the body of man or that of the plant will slowly fade and wither away. Pots for growing plants have a hole in the bottom, and porous walls. In man, the hole in the alveus pot is closed by disease and the skin is like a piece of rubber through which no moisture can escape.

It never occurred to the medicos that, when three, six or more gallons of gases were confined in the large intestine, the ileocecal valve and the sphincter of O'Beirne or the third sphincter-muscle must be pretty thoroughly closed. Long before Job uttered his lamentations and up to the present time, mankind has been slowly gassed to death, on account of a diseased third sphincter-muscle. His breath is filled with foul toxic gases and passed over a tongue that tells, by its thick coating, a mute direful story of the chronic foulness of all the tissues of the body. It is appalling that so much foul-smelling sewer-gas from the large intestine must escape by way of the mouth and nose and through other tissues of the body, in order that the pressure of the gases might be lessened.

Instead of prescribing numerous drugs that do no good and a diet that is useless,

or advising one surgical operation after another, that make a bad matter worse, why not direct attention to the closed third sphincter-muscle and relieve the unhappy possessor of six or nine gallons of gases imprisoned in the large intestine—and finally restore the lower bowels to their normal function?

In chronic, gaseous, zigzagged, ballooned bowels, we expect the large intestine to be pushed into all sorts of distorted conditions, in the way of pouches, loops, kinks, dislocations, bands, etcetera. Everything is askew from being gassed for many years.

And what can be expected from several half-pound metallic meals, as a means of x-ray diagnosis, when the weight of the metal intensifies the symptoms caused by chronic gasity of the bowels.

Relieve the bowels of abnormal gases and trust to nature that, in due time, the various organs will resume their normal location.

As an illustration, I will mention a case of a woman forty-eight years of age, who brought with her to my office the following typewritten diagnosis from an eminent professor and author of a book on digestive troubles. Dr. C. S. Evans, of Hutchison, Kansas, a clinical student of mine, was present at the time of her visit. Her case was extremely interesting, from the fact that she had had the means to employ the supposed best medical and surgical talent in the country for over twenty years, and, were it not for her mother, she would have ended her life long ago. Here is a copy of the aforesaid expert diagnosis:

"I am sorry to hear of all the trouble you are having; certainly, it is more than one person's share. Naturally, I would do whatever I could do for you.

"Regarding the diagnosis: You have a gastropnoia—greater curvature of the stomach is below the ileal crests. There is a six-hour retention in the stomach of about 25 percent; the cecum is prolapsed, there are adhesions in the mid-cecum zone.

"In addition to this, there is *chronic excessive intestinal putrefaction of the mixed type. Some degree of chronic colitis exists.*

"The foregoing is taken from my records, and for you to show to whatever physician you select.

"I do not know how you are now, but, I do remember that at the time you had

gotten through with me the conditions in the abdomen were immensely improved. I hope you are not as bad as you were, and I doubt that you are.

"I think it would be a good plan to take a posture- and rest-cure, which any physician could carry out who has one of my textbooks. The bacterial treatments would have to be carried out under my supervision and it would be necessary for you to be in New York to get them. You can, however, become much better without them, and to that extent a good conscientious physician can direct you."

As usual, the diagnosis was wrong as to the cause of the lifelong trouble, and, naturally, numerous makeshift treatments were prescribed, as life's vitality and finances waned away. Wan, weary, and wholly discouraged after so many promises of cure and as many failures, what more could sick body and mind think of but to end it all?

But, hope ever dwells in the human mind by the suggestion of the spirit in the frail organism, so, the brave woman, who lived in spite of medico's treatment, will be restored to health in body and mind.

She should have been treated for proctocolitis thirty or forty years ago, thus preventing the third sphincter-muscle becoming closed to the extent of not allowing the gases to escape—for the past twenty years. It would have been better for her to have consulted a plumber, who knows something about the value of waste-pipes and their cleanliness.

The following is a report given me by a chronic sufferer who came under my care January 4, 1916. She had suffered for some thirty years, undergoing several surgical operations and all sorts of medication and diet for *gaseous constipation*, which was so severe that rest or sleep was well-nigh impossible, day or night, and life a burden beyond endurance, were it not for hope that ever stays the suicidal hand.

She obtained speedy relief, and cure progressed without interruption. It afforded me much pleasure to have Dr. C. S. Evans meet the once chronic sufferer now restored to health.

Following is a report of a Roentgen examination of Mrs. W. P.:

"The plates of the stomach show an organ of the atonic form. It is posited, lying on the left side of the spine, the greater

curvature reaching as low as the true pelvis. The pylorus is at the level of the space between the fourth and fifth lumbar vertebrae when the stomach is distended. The use of the word "atonic" above refers to the type of stomach, as this organ shows good peristalsis for its size and form. The pylorus and cap, or first portion of duodenum, show no irregularities. The stomach was nearly empty at the fourth hour, there being only a trace of bismuth remaining in the cap, and at the sixth hour the stomach was entirely empty.

"The small intestine was empty before the tenth hour. The small intestine suffers from a marked ptosis, the cecum lying over the brim of the pelvis, both flexures lying at a lower level than normal. The level of these flexures can be noted best when not distended as in the six-hour view, when the upper levels are seen not distended by bismuth, but, by gas. Of course, after the enema, the flexures are carried up by the distension of the entire large bowel. The transverse colon makes a sharp angulation at both flexures, descending into the true pelvis, which it crosses. There was no evidence either in the plates or roentgenoscopically of adhesions or constricting bands. There is a residue throughout the colon at the thirtieth hour, but, not of any undue amount.

"Summary: The patient is suffering from a general ptosis, as described above, which surprisingly produces very little if any, delay in the emptying time of the various portions of the alimentary tract. The stomach was empty at six hours, which is unusual in this type, the normal emptying time being approximately from seven to eight hours; there was no ileal stasis, the only stasis being in the large intestine at thirty hours. It is very possible that at other times, during undue stress or following a period of overeating, the transverse colon becomes blocked and retains its contents for a much longer period owing to its poor anatomical position. It is impossible, however, for me to discuss such a condition, which did not exist during my examination."

For about forty years, I have been doing missionary work to have the doctors take a hint from the plumber-trade, to prevent the filling up of the bowels with feces and gases—the bane of human existence. Treatment: The necessary local treatment to

the chronic proctocolitis. Flush the bowels with water at a temperature of about 100 degrees twice or three times a day. Use hot water at a temperature of from 124 to 140 degrees, for an hour or more, once or twice a day. Drink 2 or 3 quarts of water during the day. In due time, hygienic conditions of the gastrointestinal apparatus will be established.

ALCINOUS B. JAMISON.

New York, N. Y.

[Compare the article, by the same author, in this journal for 1917, page 754.—ED.]

SODIUM SALICYLATE AGAINST FURUNCULOSIS

When the devil advised the Almighty to visit Job with a crop of boils, he thoughtfully selected the most painful affection the flesh is heir to. If I wished to give the Kaiser a bodily ailment for his sins, I'd say, cover him with boils.

The diagnosis of boils is not of much importance, as it usually is a self-diagnosed disease. A patient in my office this morning made a clear diagnosis by his attitude in sitting on a chair. No mistake on that point. I cheerfully asked him whether he had a boil, and he retorted quickly: "Looks like a darn blind man could tell when a man had a boil. I've got one sure and I want it cured right now. And, say, doc, give me something to keep 'em from coming."

Now, there is where the fun comes in, brother. What are you going to give these poor devils to "keep 'em from coming"? I will confess that I, myself, have been a constant sufferer of furunculosis up till two years ago. Like Atlas bearing up the world, my neck was the spot of election. I had used everything in and out of the Pharmacopeia for that matter, that was recommended for boils, including all the vaccines and bacterins. But, to no effect. I thought I got some relief from 10-drop doses of conc. sulphuric acid, three times a day, but, I was mistaken. [See comment below!] The boils came right back in spite of the treatment.

A friend of mine, an old physician now dead, had been a sufferer of the same disease nearly all his life. He told me of an old man who was confident that the tablets that were being used for rheumatism, would cure him of these boils. Assuming that the "prophet" had in mind the salicylate of

sodium, he gave that a trial, when his boils were soon gone, never to return. After ten years of trial, he assured me, it came as near being a specific as anything he had tried.

For two years now, I have been prescribing sodium salicylate, in 5-grain doses every two hours, in the treatment of furunculosis, with satisfaction to myself and patients. Incidentally, I have gained somewhat of a local reputation as a "boil-doctor".

In cases where a boil or carbuncle is reaching good-sized proportions, the salicylate will come as near to aborting it as anything I have ever found. In fact, I have seen them dry up when it looked as though they certainly would have to be incised.

Just how this valuable agent works, I am absolutely unable to say. I have thought it might be that the absorption of the salicylate might be a bactericide in the blood and inhibit the action and growth of the staphylococci or possibly by overcoming the acidotic condition and in that way increase the natural resistance. No doubt, some of the brethren who are more familiar with the end-products of drugs could give us a clearer conception of the drug's action. The idea that I wish to convey is, that sodium salicylate will cure boils as nothing else will.

If some readers of CLINICAL MEDICINE will offer suggestions as to the improvement of the sodium-salicylate treatment or any additional treatment, I shall feel mighty glad, while, if by these few lines I may become the means of relieving some poor mortal of boils, I shall feel doubly paid for this modest effort.

A. M. McCUISTON.

Richlands, N. C.

[Many physicians have, like ourselves, found calcium sulphide to be an effective aid in the treatment of furunculosis and of other systemic affections that have a tendency to manifest themselves in the formation of "boils". There are, however, cases in which this remedy fails. It goes without saying that its administration must be supplemented by a thorough study of the body-chemistry and by the correction of any existing irregularities. Except in case of carbuncles, surgical treatment has not been found very satisfactory, it being of greater importance to pay close attention to the improvement of the systemic affections. In *The Journal of the American Medical As-*

sociation for October 13, Dr. P. D. Hawk and several others reported on results obtained from the use of bakers' yeast in furunculosis, acne, and various other skin affections, saying that the continued administration of this simple remedy had yielded very satisfactory results.

While we can readily account for the success attending the administration of sodium salicylate in certain cases of this kind, we are under the impression that this success will be limited by certain peculiarities of the individual case, and we believe that the free employment of yeast, also of the bacillus bulgaricus, such as it is presented, for instance, in the form of galactenzyme, will be equally effective in many cases. Nevertheless, Doctor McCuiston's suggestion is well worth being tried out, and we should like to receive other reports on the experience of other physicians who may employ this treatment.

With reference to the use of conc. sulphuric acid; by "conc.", the Doctor presumably means "concentrated", or, more properly, "full-strength". Of course, this must be *very largely diluted* and taken through a tube, the mouth quickly to be rinsed, and best with water containing a little sodium bicarbonate. It should be taken some twenty or thirty minutes after the meal.—Ed.]

WHAT WOULD YOU DO TO STOP SUCH THINGS?

President Wilson, while reviewing the Red Cross parade in New York, was greeted by a Canadian soldier, invalided home from the front, who had been taken into the Canadian army in spite of the fact that he was 54 years old, when the authorities learned that his son was one of those that German soldiers crucified on a barn door. What would you do to stop such fiendish things? Do you think it much of a sacrifice to pledge yourself to save and to buy War Savings Stamps?

THE BEST INVESTMENT IN THE WORLD

From whatever angle it may be considered, an investment by an American citizen in Liberty Bonds or War Savings Stamps is the best investment in the world.

The money so invested goes to the Government, which loans some of it to our al-

lies; all of it is used in one way or another to maintain, support, arm, equip, and make victorious our armies and our allies in Europe. Surely no American money could be put to a better purpose. Here is an investment in the power and success of our country, an investment in the efficiency, strength, safety, and success of our fighting men on sea and land.

We do not know what commercial and industrial conditions are to be when the war closes, but we do know that a Liberty Bond and other United States Government securities will be sound and secure. Every dollar loaned the Government by our people now is a dollar saved for the time when peace comes. With their savings invested in these sound securities, the American people will be well prepared to meet the problems that peace will bring. It is a species of insurance for that day, and at the same time good business.

GERMANY'S WAR ON THE WOUNDED

German airplanes recently bombed a large American hospital. Hovering at low altitudes, every effort was made to hit the main building, which was conspicuously marked with the Red Cross emblem. Doctors and nurses removed our boys to trenches previously dug for such emergencies. National War Savings Day gives an opportunity to register in a practical way your vow that such things must end.

OBSTRUCTION OF INTESTINE

Recently I witnessed a very interesting operation for obstruction of the intestine, and, as the trouble was not corrected, as a result of failure to find point of obstruction, I have given the subject much consideration and am anxious to read the opinion of other physicians upon this experience of mine.

The patient, a woman of about thirty-five years who had been married several years, entered a hospital for some ailment connected with her pregnancy of four and one-half months. While there, intestinal obstruction set up. She being pregnant, this, of course, was the first thing which the attending physician suspected as the cause. The obstructive symptoms were very manifest. The abdomen was very much distended and swollen; tympany was

marked; pain was intense and there was constant vomiting and nausea.

Every means to correct the trouble, without resorting to an operation, was tried, but, to no avail. High enemas were given, without affording relief. As a last resort operation was decided upon.

Being only a witness to this operation and not having seen the patient previous to this, I found it rather difficult to obtain what information I got—which was little, still, enough to make the case interesting and to cause me to give it much thought.

After opening the abdominal cavity, the small and large intestines were found to be distended with gas to almost twice the normal size. The small intestine resembled the large intestine very much and but for the structure of each it would have been difficult to identify it at first. The color appeared to be normal. The uterus was found to be enlarged, however, not beyond that of a 4½-months' pregnancy; and, as this did not seem to be the seat of the trouble, other things were thought of. Adhesions were sought, but, none found. Intussusception and impaction were eliminated. The seat of trouble could not be found in the small intestine, neither in the cecum nor in the ascending or transverse colon. Then it was thought to be in the lower end of the descending colon or the sigmoid flexure. No evidence, though, was found anywhere.

The gas being allowed to remain in the intestines, the abdomen was closed. I was very sorry to be unable to follow up the case and to learn of the final outcome; yet, notwithstanding this, I have continued to give this case much study. Having seen the operation and knowing that the trouble had not been corrected, it occurred to me that, if a slight puncture had been made in the intestine and the gas allowed to pass away, the point of obstruction could have been located. This, however was not done.

T. T. HATCHER.

Cattlesburg Ky.

[Undoubtedly it is difficult to conceive why the surgeons in this case did not tap the distended intestines permitting the accumulated gas to escape. This could have been done with virtually no risk of harm following since it would have been an easy matter to close the wound by means of a suture. However, whether it would have been easier to locate the point of obstruction

tion after the gas had been removed, seems doubtful; indeed, the failure to locate it with the intestine blown up is difficult to understand. Lastly, one hardly can conceive how it was possible to replace the distended intestinal coils into the abdomen, as everyone who has ever done or witnessed a laparotomy will agree.

As to the merits of the case itself, it is, of course, impossible to pronounce an opinion. All we can do is, to raise several pertinent questions, as Doctor Hatcher himself already has done. We should like to know a whole lot about this case and should wish to have some of the obscure points cleared up.—ED.]

FREEDOM

Ah, for one short, fierce hour to shake us clear

Of all the irksome shackles of the flesh—
For but one supreme moment to rise sheer
Of earthly wiles that tangle and enmesh!
So might the naked soul of Freedom stand,
Fronting the naked soul of her arch-foe,
One flaming bolt poised in her awful hand,
And hurl him to his instant overthrow!

The high gods answer, "No."
Soul of Freedom there is not, but, souls of the free—

Dream of the universe waking in you and me;

Stuff of our sleep are the shackles, the wiles,
and the toils,

Stuff of our dream are the triumph, the song,
and the spoils.

Only by sleep cometh dreaming, in watches
of night.

Only by dreams cometh waking and struggle
to light;

Only by waking the vision becomes what it
seems;

Only the dreamer can fashion the thing that
he dreams.

T. G. ATKINSON.

Mudlavia, Ind.

THE ORIGIN OF BOCHE

When suddenly at the outbreak of the war, the name *boche*, as a term of contempt for German soldiers, sprang up among the French and spread to this country, many people inquired as to its essential meaning; but, no dictionary or slang-book vouchsafed information. Then philologists got busy, and one of the most categorical explanations published was that *boche* is a contraction of *Alboche*, and the latter a corruption of *Allemand*. I confess, I have been unable to follow out the lingu-

istic commutation—albeit the evolution of Ned from Edward and of Bob from Robert is no less mystifying. Various other solutions have been suggested, more or less plausible; however, the correct answer seems to have been hit upon by Prof. L. Sainéanu, of Paris, who derives it from *caboche*; and in this he is sustained by several eminent German philologists.

Caboche is the French for head (Latin, *caput*), but by extension, also signifies a "thickhead" or numbskull—and thus, presumably, was the original application of the opprobrious contraction *boche*. In further support of this theory, Mr. Vizetelly, editor of the *Standard Dictionary*, brings out, in *The Literary Digest*, an interesting bit of history.

Early in the fifteenth century a Paris butcher named Simon Leconstellier placed himself at the head of a rebellious band and—very much like our Pancho Villa of Mexican notoriety—made himself odious by the outrages of every description perpetrated by his followers. These marauding bands, pillaging and murdering, continued to spread, so that, in the course of his half-dozen years' career, their leader became known as *Le Cabocheur*, the butcher—no doubt in a twofold sense—for, *cabocheur* was the designation of a butcher's assistant who had to split the heads of sheep, hence, headsplitter. Soon this nickname degenerated into *Le Boche* and then simple *Boche* (pronounced *boa-sh*). These lawless *Cabocheurs* were finally suppressed in 1422. It is reported that at one time they killed 3500 people in Paris during three days.

In this connection, Mr. Vizetelly mentions several other attempted derivations of this slang word, as, for example, (1) German *bursch*, fellow or lad; (2) German *buerschen*, hunt with a rifle; (3) Low Latin *boscia*, *boscium* (cf. L. *bucca* and F. *bouche*, mouth), and from that the Picardy *boche*. However, all these may readily be dismissed it seems, as also the (4) French *bosse*, tumor.

Incidentally it may be of interest to take a look at the word *butcher*, as forcing itself upon attention. The fundamental idea seems to be, to beat, to strike, as in butt. Butcher is *boucher* in French and *bochere* in Old French; and that, literally, means one who slaughters he-goats, bucks; for, the French for a buck is *bouc*, derived

from the German *böck*, and OHG. *bocch*. But, this German *bocch* (guttural ch) is related to the Sanskrit *bukka* and Zend *buza* (*butza*). On the other hand the verb to butt brings up the French *bouter*, Old French *boter*, and this based upon the Old High-German *bozan* (*botsan*), and present in the Low German *botsen* and *butzen*, to beat—the latter itself a derivative. Directly connected with this OHG *bozan* we have the verb *boss*, that which is beaten out of, embossed; which, again, appears in French as *bosse* and as *boche* in Old French.

Mr. Vizetelly mentions especially *Le Temps* of December 22, 1914 and *Blackwood's Magazine* for December, 1914, as references. From other sources, such as "Argot and Slang" (London 1889) and M. C. Donnay (a Parisian playwright), we learn that the French seemingly had forgotten the original "butcher" story and associated with the term *boche* simply the idea of a dull-witted "wooden head" (*tête de boche*) or "squarehead," blockhead (*tête carrée*), and had come to apply it to their German neighbors, notably the Alsatian peasants, who were largely employed in menial work and as wet-nurses and, naturally, seemed extra stupid—precisely as our recent immigrant among ourselves. The bitter concept now conveyed by the term *boche* is a development of the present war.

ADOLF G. VOGELER.

Chicago, Ill.

ANTISEPTIC ACTION OF ECHINACEA

The last time, I wrote about lobelia (Dec. 1917, p. 916). This time, I have an *echinacea-angustifolia* bee in my bonnet, besides two satisfactory case-reports.

Called some distance out in the country, I found a young married woman who nine days before had aborted at, so far as I could learn, about three and one-half months. She and her husband had been living in a tent and, while still flowing, the morning after aborting, she had walked through a drizzling rain for two and one-half miles to her husband's mother's home.

The woman was bedded in a rear upstairs room, and I detected odors as soon as I opened the door to start up the stairs. The room had three windows, and, to quote Josh Billings, "There wan't any curtains to the windows and didn't want to be any.

You couldn't see out, so, who the d—! could see in?" The sheet she lay on—once white—was a beautiful light-drab, save under the patient, where it was a dirty-brown color, owing to the lochial discharge, and when the covers were lifted the odor stank to heaven. These surroundings were in keeping with the intelligence of the people around her—I was going to say, taking care of her, but, she had no care. Her temperature was 104.6° F., the face was flushed, bowels were constipated, and, as her husband said "She haint got no appetite at all." Strange, was it not?

Well, I stood up, looked around and took a good long think. How I longed for 20 mils of antistreptococcic serum. But, there I was, 9 miles from anywhere and the people with no money to pay for it, anyway. So, I cogitated some more. I ordered the patient and her bedding cleaned up, the floor scrubbed with water containing plenty of soap and kreso dip (of which latter they had plenty). I stayed and saw that this was being done, all the time I kept a' thinking.

I found in my case about 3 drams of Lloyd's *Echafolta* (*echinacea*). This I put into 4 ounces of water. Also I dealt out 6 granules of calomel, 1-6 grain, and podophyllin, 1-6 grain, one to be given every one-half hour and followed by a decided dose of effervescent sulphate of magnesium. The *echafolta* I directed to be given 1 teaspoonful each hour (thinking she might as well die on *echafolta* as without it).

Next day, I found her improved, with a temperature of 101.4°F. Her bowels had emptied, while during the night a chunk of afterbirth, somewhat larger than a baseball and badly decayed had passed. I ordered the head of the bed raised, to aid in drainage. This time, I made the *echafolta* and water mixture half and half, also to be given in teaspoonful doses each hour. This treatment was kept up, and, with cleanliness and such poor nursing as the people could give, the woman recovered.

Was it the *echafolta*? I say, yes.

The next case is that of a young parturient Mexican girl, 17 years of age, wife of a railroad trackhand, living in a box-car such as the railroad company houses its alien workmen in. Her bed was a common straw tick, on a cast-off woven-wire mattress laid upon two sawhorses. The surroundings were squalid, filth and dirt

abounding. There was but one cup in the house, no teaspoon, three tablespoons, no plates or any dishes to speak of. They cooked on the top of a round "Oak" heating-stove, with waste wood picked up along the track. The parturition was uneventful. A male child was born, and it had all the characteristics of the race. Next day, I was called away for three days.

When I returned, the patient had had a chill, followed by fever. Her temperature was 103.2° F., the flow had stopped, bowels were constipated. As before, I cleaned out her bowel with calomel and podophyllin, followed by a saline laxative. Then I gave echafolta in 15-drop doses every hour. Next day, her temperature was down to 99 degrees. I continued the same treatment, which resulted in an uneventful recovery.

I could go on enumerating cases in which the same treatment has discouraged the death-angel and wooed the flagging power of a dying one back to health, but, I have chosen these two on account of their want of care and bad surroundings.

W. K. JOHNSON.

Haskell Kans.

GOOD-BYE, JOHN BARLEYCORN, GOOD-BYE

I.

Good-bye, John Barleycorn, good-bye,
Your sun is sinking fast;
With Congress promptly voting dry,
Your doom is sealed at last.

II.

You've held full sway for many years,
You've ruled with iron hand;
On widows' and on orphans' tears,
You've thrived throughout the land.

III.

You've pulled our ablest statesmen down,
Our poets, authors, too;
You've robbed the farm, the mine, the town,
Debauched the sacred pew.

IV.

The rag-a-muffin on the street,
The felon in his cell,
The pauper in his lone retreat,
The same sad story tell.

V.

At last, the people are aroused,
The ballot is their sword;
The cause of justice once espoused,
They'll rout the rum-soaked horde.

VI.

Our Congress blazes bright the path,
The Union is our goal;
The voter in judicious wrath,
Will break the poison bowl.

VII.

If we but one and all unite
In prayer to God, Most High,
He'll give us strength to win the fight,
To make our country dry.

VIII.

Hosannas shout with swelling pride,
Glad hallelujahs sing;
For Prohibition, nation-wide,
Our efforts soon will bring.

IX.

Oh, who can paint the picture then,
Of peace and filial love,
The sweet content in homes again,
Akin to that above.

X.

Farewell, John Barleycorn, farewell,
Your mourners very few;
Whilst city, farm and charming dell
Rejoice in freedom true.

J. A. Cox.

Wheeling, W. Va.

REFLECTIONS ABOUT VERTEBRAL SUBLUXATIONS AND OSTEO- PATHY

The basic idea of Osteopathy and the kindred physiotherapeutic cults as I understand their teachings, is essentially, "relaxation and replacement." You hear them say, "Osteopathy is more than massage." Perhaps it is; certainly to the extent that an attempt is made to reduce a dislocation or a partial dislocation of any body-tissue, though it should be remembered that, besides the bones, they include in their list of subluxed tissues, nerves, tendons, muscles, ligaments, and blood-vessels.

The Osteopaths hold that dislocation or partial dislocation of such body-tissues is the initial cause of disease, following which, they allege, obstruction of the flow of blood and nervous energy along all nerves traversing the site of the obstruction occurs. From this, they deduce resultant trouble in organs, near or remote that supposedly are supplied with blood or nerve-energy by the structures impinged upon.

The local manifestation of such a subluxation is found to be tenderness on pressure—the traditional "sore place"—be-

sides, if the partial dislocation is in the vertebral column (which it most likely is), there will be a bunching up and shortening and rigidity of the erector spinal muscles that tend to pull the spine toward the side in which the dislocation exists. The engorgement of the musculature of the part can be accounted for if you recall the old Latin maxim of *ubi irritatio, ibi fluxus*.

Now, as to just what proportion of diseases or symptoms in organs of the body have origin in these spinal or other subluxations, I am not prepared to say; however, my opinion is that mostly the etiological factors that produce these symptoms or diseases would more properly be said, in the great majority of cases, to have their inception in germinal and parasitic infections in the body proper, and that the nerve symptoms found in portions of the spinal column and the region of the exit from the spinal cord, of nerves supplying such diseased organs, are secondary. Still, for the argument's sake, I am granting that they all originate in misalignments of tissues or bones and that from thence all symptoms are forwarded to the organs supplied.

Following this theory, we should find symptoms in the head, face, ears, eyes, throat, tonsils, pharynx, larynx, trachea, bronchi, lungs, pleura, esophagus, heart, diaphragm, stomach, liver, kidneys, spleen, bowels, and genitourinary system, and these would show diseased conditions according as the patient suffered from subluxations of segments in the cervical, dorsal or other regions of his backbone.

So much for the theory of the devotees of "relaxation and replacement." Now as to the treatment.

There is a strong tendency in the medical mind to wax facetious when speaking of the treatment, but, I am humbly in search of truth, and, when I asseverate that there is as wide a difference in the method of their attack as between the handshake of a gentleman and an informal meeting with a billygoat, I mean just that. For, I believe that I have been treated by all sections of what might be termed collectively "The Brotherhood of the Prod."

The Osteopath, as a rule, "feels around more," using his hand, foot, knee or the body of the patient as a fulcrum and the patient's arm or leg as a lever with which to cantilever the misplaced bones back into

place, while most followers of the other sects "get to you" suddenly and more or less unexpectedly. The point I want to make, though, is, that all these present-day exponents of "relaxation and replacement" are lame in theory and negligent in practice, inasmuch, if they accomplish any replacement of tissues subluxated, they make no effort at all to support them in place until nature can institute repairs that will retain the replaced structures in their normal relations.

For example, let us suppose that you are a patient suffering from a lame back, the result of traumatism, and are seeking relief at the hands of an Osteopath. You are stripped and laid face down on his table and the "sore spot" in your vertebral column is hunted for. "Ah," he breathes, as you give a sudden squirm on the table, "I thought so." Straightway he begins the process of "relaxation," this consisting in deep massaging; then the leverage, and perhaps (let us pray for it) your ears are to be rewarded by the sound of the "click" of the subluxated bone back into place again. You are now allowed to arise and put on your clothes, and you depart with the injunction to come back the next day and the next, and the next, and the next, and so on *ad infinitum et ad nauseam*. And each time you have it done all over again and pay a further fee.

Now, suppose a patient with a dislocated shoulder-joint should come to you. You "do" a "Kocher." Then, when the bone is duly back in place again, do you tell the patient to return every day for a month or six months and have you reset it as often for him? Emphatically, not, or you probably would speedily be in court for malpractice. On the contrary you place such supports around that shoulder-joint as will immobilize the strained ligaments and tendons until nature can inaugurate such needed repairs, while the part is at rest, as will result in the part nearly resuming the normal again.

So an Osteopath, a Chiropractor or any other man who fails properly to support a reduced subluxation, for the necessary time, should be held equally guilty before the law, in proportion to the damage inflicted upon a patient by reason of the neglect.

This much to show that the schools devoted exclusively to "relaxation and re-

placement" are, in reality, doing the least to accomplish it intelligently. What I mean to say is, that, after the patients have kept up their regular visits to the point of financial or physical weariness and have quit, they slump back about to where they were before the first visit, although they were constantly feeling better while taking the treatments.

The only defense the brotherhood of the prod offers is, that, with the improvement of the circulation brought about by the relaxation and the stimulation of the replacement, the needed repairs automatically will ensue, while, on the other hand, in some cases, fibrous deposits that have been thrown between surfaces that formerly were opposing will prevent complete reduction for a variable time. The first of these contentions is, to credit nature with the miraculous powers of repairing an injury while the part is being actively used (which it never does, never can do, never tries to do), and the second contention does not apply in any case in which an Osteopath could legally administer treatment.

One thing is quite evident. To institute such efforts at support as I have indicated, would cut out about ninety-nine percent of the income; although, somehow, I do not think that that altogether explains their negligence in these matters—there is a surprising lot of honesty among them.

I have only to add that since I have been giving these spinal subluxations more attention and been rigorously strapping the backs up with adhesive tape very few of my patients have had occasion to consult an Osteopath or Chiropractic.

J. A. DUNGAN.

Greeley, Colo.

THE MEANING OF A DREAM—ACCORDING TO FREUD

I will report a case of anxiety-hysteria in which the phobia was banished by the freudian method of treatment:

The freudian treatment of the neurosis received severe censure at the hands of uninformed critics or those who only have tried the method without years of preparation. I can imagine a man without surgical training looking askance at the advisability of doing abdominal surgery, judging from his own results. This should not deter a trained surgeon from using his skill, after convincing himself, by extended prepara-

tion, that abdominal surgery can be done, with startling success, if the operator has had adequate preliminary training. The warning of the man who speaks "from experience" will be taken seriously by many who have not investigated the primary cause of the untrained man's failures.

The ability to use Freud's method is not mastered in a few months of prejudiced effort. In fact, after years of the most painstaking study, the wonders of the treatment just begin to be realized. I will omit all detail in the present case, and I shall make no mention of the hours of toil and research involved. I will give only the most obvious mental mechanisms in the case, with no attempt to defend the mechanisms as complete.

Some of the leading neurologists state emphatically that no complete understanding of patients can be had unless the methods of psychoanalysis are used. I absolutely agree with that statement.

The patient was a woman of 35, mother of two children (had no miscarriages), very emotional, cried most of the time, though always was well and strong. Family-history was negative, also the physical examination. The complaint was, she was afraid her husband was going to leave her.

I asked whether she could recall anything in childhood that caused her any emotion. "Yes," she said, "my father left my mother when I was but three years of age." Many other experiences, consuming weeks of time to narrate, are omitted.

It would seem, at first glance, that here was sufficient reason for her fears, as she had watched and wondered at her mother's sorrow and trials from being deserted; but, analysis showed something deeper in her emotional life. I called attention to the fact that, because her father left her mother, was no reason why her fear of her husband's leaving her should be borne out in fact. She admitted that they were devoted to one another and that she had no reason for her fears. Both were members of the church and they were church-workers. She now recalled worrying about her husband's playing cards, as she had thought he was opposed to it. She was very keen in noticing every change in her husband's actions and interpreted these along the lines of her fears.

After listening several weeks to her experiences and associations, I asked her

about her attitude toward men. "Very modest, always. I never look at a man when I meet him on the street," she said. "Why?" I asked. "I do not know." "What would you do when finding yourself approaching a group of men?" "I should not pass them." "What would you do?" "I should cross to the other side of the street." "Is that a mere whim?" "No, sir, it is not. I could not pass them." This seemed an important symptom to pursue. "Do you pretend to tell me that you would ruin a new pair of shoes, by crossing the street full of mud, instead of passing a group of men?" "I certainly do. No power could make me pass—I first should die." This seemed a bit overdrawn. "How do you account for such a mental compulsion?" "I am sure I do not know. It is very annoying." "Well, your dreams have helped to clear up so many things in the past that they will, no doubt, throw some light on the situation; therefore, do not fail to write out all of these, as we are at an important level in your return to a healthy mental state."

For those who are not familiar with the interpretation of dreams, I will state briefly:

Dreams are perfect psychological mechanisms, composed of two parts and expressing a wish-fulfilment. The first part is known as the manifest part, the second part is called the latent part. The first part is what one remembers on awakening in the morning. A dream often is confused and to the dreamer it may seem foolish, nonsensical, and to contain things never thought about. So, on this basis, dreams are called of no account. Dismissing a dream as of no account, does not dispose of the fact that dreams, when understood, are of the greatest value; in fact, they are absolutely necessary for the understanding of the hidden material in the mind. It seems foolish, since the censor that sits at the gate of the mind does not let painful, shameful thoughts come back in the same form that they were forced from consciousness; therefore, it is necessary for these thoughts to return masqueraded and to be viewed as foolish, since the censor will not let them through if the disguise is not adequate; thus causing a stirring up of the dream-elements, and a confused dream results or can not be remembered on awaking. The second part, with the dis-

guise removed, is the real part of the dream, and it contains the wish.

I will now give the dream that showed the patient much repressed mental material, and it resulted in her loss of the fear that her husband was going to leave her. The dream uses symbols for the various disguises in the dream. Long objects are used to represent the male organ in sex-dreams, openings represent the female parts.

Relating a certain dream, the woman said:

"I dreamed I was upstairs in the attic, with a machine-gun pointing through the open window. Over a hill were some Germans appearing. I began to shoot, but, they surrounded the house and I was captured."

She laughingly remarked: "Do you think it is a wish of mine to be captured by the Germans?" I answered "I do not know. We shall see by interpretation what your associations bring out."

Before proceeding to the dream-analysis, I will note briefly some of the symbols used by this dream. All analysts know that "upstairs" means the sex-act; the open window is symbolical of the female parts; the barrel of the machine-gun of the Germans represents the penis and is symbolical of rapine as suggested by the war.

With this brief, and in no way complete, showing of the dream-material, I asked what came into her mind when she thought of a machine-gun. She said, "Something that shoots a number of times." Then what do you think about?" "A man." "Be more explicit." "I think of a man's private parts." "What comes into your mind when you think of being captured by the Germans?" "What they did to the Belgian women." The wish in your dream is then, that you do want to be captured by the Germans; or, in other words, you have a repressed desire to know more men intimately—which means the same thing."

The effect produced by the uncovering of such a repressed desire and the patient's becoming conscious of the fact must be witnessed to be appreciated. The facial emotion and trembling are convincing that some heretofore unknown mental element has been forced into consciousness.

After some hesitation, she said, "I now see many things very plainly that I have never understood. I have something further to confess: I never go to church

without looking over the congregation and making a mental note of the men I should like to know intimately. That seems a dreadful thought!" "You have now given me the needed information to enable me to explain your mental trouble to you." And this is what I said to her:

Fear of your husband leaving you is a wish; as it would cut one legal reason why you should not know other men.

Your not looking at men on the street was a defense-reaction, as by your apparent modesty you convince yourself that you are a virtuous woman.

Passing a larger group of men represents the ones you look at in church, and you think they are thinking about you what you think about them. (Righteous judgment.) This line of thought is so disturbing for a woman who is striving to overcome her desires that it becomes the reason why you are unable to pass. You can pass one or two men, but, an increased number of men increases the difficulty.

Your church alliance was, to help you to satisfy your consciousness that you are a good woman; but, in the realms of the unconscious, animalistic part of your nature, you had a desire to know more men. This desire was protruded into consciousness and it was changed to a fear of the very thing you unconsciously wished for. This desire made you less anxious to please your husband, and I have no doubt that his going away to play cards was, to avoid an undefinable something he felt coming from your unconscious, a sort of an I-don't-want-you-around sensation.

After the patient became fully conscious of the repressed thought-material in her mind, she reacted by publicly reconsecrating her life to the church on the following Sunday. On her return home, two maids were discharged, and the surplus energy that had been accumulating by inaction was used up in doing her own work.

Weeks afterward, she reports that the oldtime fear has entirely left and that life now is very much worth living.

O. B. A.

—, Me.

THE RECOGNITION OF PAIN

In reference to Doctor Jones's article on the diagnosis of pain, in *CLINICAL MEDICINE* for May (p. 384), I will refer you to the following two signs:

1. Mannkopff's sign: Take the pulse rate before, during, and after pressure is made upon the sensitive area. If the pulse becomes increased in frequency, it is a proof that the pain is genuine.

2. Sign of Loewi: Dilatation of the pupil is in direct proportion to the intensity of the pain. Thus, if in a healthy man one exercises energetic pressure on the testicle, the pupil dilates, whereas, in the tabetic in whom the testicle is insensitive, no pupillary dilatation is observable.

This statement is taken from Abram's "Spondylotherapy," page 70.

Observe that the sign of Loewi is the very opposite of the pupillary condition in pain as given by Doctor Jones.

L. I. BOGEN.

Lincoln, Nebr.

"CLINICAL MEDICINE" IS A MONEY MAKER

I have treated 11 cases of morphine habit in accordance with the article on luminal published in your May number, at \$150.00 each and had fine luck with all.

Have had equally fine success from other articles on different diseases, and see no reason why a good student should not keep abreast of the times by reading *CLINICAL MEDICINE*.

I am in service and have been appointed major, but will continue to read up.

C. W. BAYNHAM.

Dallas, Texas.

That is good to hear. Many physicians inform us that here and there they have received valuable and, often, money making suggestions from reading *CLINICAL MEDICINE*. Certainly it helps to study a good medical journal.

THE SCANDAL-MONGER, "URIC ACID"

"When those who should know are mere gossipers and repeaters, what is a poor man to do?" This from a patient who had written in an earlier letter that "I have pains and aches and know it is uric acid in my blood."

Gently, patiently, though hopelessly he was warned against the repetition of the silly, incorrect doctrine, that any disease or symptom was caused by uric acid—as normal a thing as food or blood. Came



Good Advice!

then his second letter, in which he said that Prof. So-and-So was his "authority" for blaming this old-time scapegoat.

As he justly wails, if some doctors still help medicine-bottle labels by crediting sickness and disorders upon uric acid, which is a natural end-product of many foods, it is almost a waste of effort to try to teach the average person the truth.

The "uric acid" nonsense is a typical example of German-like propaganda. It is proof that, if enough voices, enough books, enough lectures, enough advertisements are worked repeatedly and loudly, the most absurd untruth will be accepted by the most intelligent as the truth.

The proofs that the activities associated with uric acid are sheer romance, and not real, have been repeated many times for several years. Yet, scarcely a day passes that physicians fail to be connected by patients with the home-made decision that the sufferer's troubles are due to "acid" conditions, and "uric acid" in particular.

Uric acid is one of the waste products or end-articles of albuminous digestions.

Whenever proteins or other such victuals break up, uric acid is formed. The wear and tear of our own healthy flesh, no less than the fermentation and digestion of food, makes uric acid. The elimination of uric acid in the kidney fluids is a continuous and normal activity, which is usually increased with the ingestion of foods rich in nitrogen. It is, therefore, not uric acid which is the source of joint disorders, fat accessions, high blood pressure, eczema, arteriosclerosis or almost any of the other ills which the flesh acquires, but, it is any or many of the several protein excesses present in too much albuminous pabulum that causes the trouble.

A low protein diet, one in which fleshy and fishy, albuminous vegetative products are greatly diminished will assist the health of many having the symptoms blamed upon uric acid. This is because such a rich diet puts too great a stress upon the blood and other structures in a variety of ways—not because of the incriminated "uric acid."

The influence of uric acid in diseases credited to it was doubted by several young

physicians and research-workers as long as twenty years ago. Such, however, was the hold it had upon the medical world, by dogmatic repetition, that it was impossible until recently to uproot the error. These young men were scoffed at for doubting its influence on health.

Researches conducted recently by Doctor Mendel and others prove that soups, broths, tea, coffee, cacao, and the like increase the amount of uric acid. Like nitrogenous rations, these change more or less into uric acid (which contains nitrogen) and allied products. More of it than usual is then found in the kidney fluids. When you drink coffee or broth, it is excreted through the kidneys, in most part as ammonia-like compounds called uric acid and urea. It is the caffeine in the coffee and substances similar in character in soups, tea and cacao that appear to augment the uric acid.

Beware hereafter about crediting uric acid, which is always present in man, with the damage or disease due to something more difficult to discover.

LEONARD K. HIRSHBERG.

Baltimore, Md.

[The fact that uric acid is "merely" an end product of protein metabolism does not exonerate it from the possible charge of being responsible for, or at least indicative of, disease. An excess of uric acid certainly suggests a faulty metabolism; in itself, it may give rise to distress and other symptoms of disease, and requires active treatment for relief. True, such treatment is symptomatic. Yet, is any treatment to be condemned on the ground that it is symptomatic? That would be utterly foolish; for, it is relief from distressing symptoms that the patient consulting us desires. He neither knows of nor cares for underlying causes, leaving these for the physician to determine and eliminate. What he wants, and is entitled to, is, relief—symptomatic treatment. Hence, measures taken for the purpose of reducing the excessive uric acid are not irrational, even though it must be admitted that they must be supplemented by "causal" treatment.—Ed.]

HECLA LAVA, HOMEOPATHICALLY FOR EXOSTOSES

Dr. Jas. Garth Wilkinson, an eminent London physician, a licentiate of the Edinburgh University, not only was a very successful physician, but, likewise, a close sci-

entific investigator. During one of his mid-summer outings in Iceland he noticed that many cattle had bony growths of the inferior maxilla and the long bones. Upon investigation, he found that the cattle having these bony enlargements grazed in meadows where the ashes from the volcanic eruptions settled on the pastures.

On returning to London, he took some of the lava with him, had it analyzed, and found that it contained silica, aluminum, calcium, and magnesium compounds, and some ferric oxide.

Believing that it would be efficacious in exostoses of human bones, he prepared a homeopathic dilution from the lava and gave it to patients so affected, and he was delighted with the results.

Dr. J. Compton Burnett, another eminent London physician, was especially pleased with the results in bone tumors. Favorable reports from other physicians confirm the value of this lava in bone necroses, while one especially favorable report comes from a reputable physician in the cure of a sinus following a mastoid operation. I myself have found the lava beneficial in exostoses. My personal experience with leontiasis ossea and in hyperostosis cranii is limited to one case, and that as follows:

A spinster of 45 years consulted me and gave the following history: A few years previous to seeking my advice she first noticed a slight enlargement of the lower jaw, which gradually extended to the upper jaw and occipital bone. She had consulted eminent specialists of Boston, New York, and Philadelphia, but, none gave any encouragement. She was then taking pituitary and thyroid preparations, prescribed by a New York alienist, but, without receiving any benefit.

Hecla Lava, 3X, was given internally, and a 10-percent cerate of the same for external application. She remained only a few weeks under my care and during that time there apparently was a slight improvement in the arrest of the growth and more especially in the discomfort attending this unusual disease. Subsequently she removed to California and the treatment was discontinued. After her removal to California, the writer is not able to give a history of her case up to the time of her death, which occurred three years after.

H. F. BIGGAR.

Cleveland, Ohio.

In the World War

THE MAKING OF AN ARMY MEDICAL OFFICER

Traveling on a Troopship.

At last we are relieved by overseas orders. Surrounded and shrouded in secrecy they were. No word was given the men, but, all leaves of absence and passes were taboo. Equipment was checked up and completed. Special overseas equipment was issued to the medical officer, and his quota of enlisted men was assigned to him; the troops were ordered to remain close around their barracks, extra clothing and supplies were packed or crated. So, while no definite orders were given, every man knew that our stay was short.

One frosty morning we fell in and marched to a train that was waiting with steam up. No gay hurrahs, no posies-on-their-guns gayeties. Just a quiet, business-like little march to the train, each man intent upon his own thoughts. The train pulled out immediately after we were loaded, and, with closed windows and doors, we were off. Detrained after a few hours' run, we were marched onto a government tug, a frosty trip over the harbor to the wharf, off the tug, then up the gangplank of a grim war-painted monster, which was to be our home for the next few weeks. Several very business-like-looking guns at different parts of her deck gave her a grim chip-on-the-shoulder appearance and were wonderfully reassuring.

The men were assigned to their respective sections and the officers to staterooms—three officers to a stateroom. The warmth of the ship was very welcome after the cold trip. As is the usual custom upon reporting at a new post, each M. O. that had accompanied troops, on board, reported to the senior M. O. in charge of the troops; and that evening, after supper, we all met, with the ship's surgeons, and a tentative plan was drawn up as to how best to care for the thousands of men on our trip across. Hours were decided upon

for sick-call, ship inspection, inspection of the men for contagious diseases, venereal diseases, ship-sanitation, ventilation, disposal of waste, and so forth. Each M. O. was assigned to a certain section and was made responsible for the men there.

Next morning, sick-call was sounded at 8:30 a. m. We each repaired to the section to which we had been assigned and notified the officer or noncommissioned officer in charge there to look up his sick. The men soon lined up. Each M. O. had a box marked with a Red Cross containing swabs, cotton, bandages, epsom salt, Brown's mixture, castor-oil, tongue-depressors, and the ever present iodine, while in a belt around his waist he carried hard-rubber bottles of tablets for colds, pains, coughs, et cetera, a bottle of aromatic spirits of ammonia, a hypodermic syringe and tablets, thermometer, and a very efficient little case of instruments. So, with his enlisted men of the medical department to help, the M. O. handles quite a line of men in a short while.

As I lanced a gum over an abscessed tooth, with the ship rolling and pitching, my body at an angle of about 35 degrees, legs far apart, the soldier hanging onto the companionway, to keep erect, swaying with the motion of the boat, I could not help thinking of the difference between these surroundings and a modern operating-room where are bright lights, aseptic precautions, and all that. Afterward, lancing a boil was a common affair. Work as a whole, however, was of minor nature—swabbing throats, seasickness, cinders out of eyes, constipation and its myriads of consequent psychological ailments, a few cuts and bruises, a dislocated shoulder, and so on. The few patients with contagious diseases that showed up were promptly sent to the ship's sick-bay, and, by our prompt isolation, we managed to hold contagions down to a minimum.

Sick-call was sounded twice daily—at 8:30 a. m. and 3:30 p. m. Those too sick

to answer sick-call we visited in their bunks. The afternoon of the first day out, all the army-officers representing the different units on board—cavalry, infantry, artillery, quartermaster, medical, aviation—were ordered to assemble in the smoker. Here, the ship's executive officer outlined to us the rules, safeguards, et cetera, to be

plenty of musical talent among the troops on board and had a musical program at noon and evening meals. Were it not for the rolling and pitching of the boat, one would think himself back in a Chicago hotel.

The dishes were of the "ambulatory" type, at times, owing to this small roll. One would reach for an orange and it would roll toward him, or he would put his spoon in the soup and hit the bare bottom of the plate, the soup being washed over to the other side of the plate, and he would have to wait for the ship to right itself and the soup to wash back.

Many were the incidents to relieve the monotony of the trip. A ring was roped off on the afterdeck, and there were boxing-matches among the men, with an army chaplain acting as promotor. "Repel attack" and "abandon ship" drills, where each individual soldier, with a life-belt around him, repaired to his station, each man being schooled as to his exact station. These drills permit of no waiting to carry luggage or to pack up, and it was amusing to see the colored waiters in their white jackets, with life-preservers on, dash quickly but orderly to their station or life-raft, at the bow or stern, the wind flapping the corners of their coats, while, vomited up from the very bowels of the ship, it seemed, came the coal passers, stripped to the waist, sooty and grimy

with coal dust and sweat, to take their station by the side of the white-clad waiters.

The guns were hastily uncovered and the gun-crews went through their drill of sighting, loading, and firing and traversing their pieces; and very business-looking and efficient they appeared. While we were dressed in our woolens, these hardy sons of the sea went about their work in bare feet and open shirts, seemingly with a very wholesome contempt for the weather, restless as the caged lions in the zoo, ever alert and peering over the waters.

Early one morning, one of our lookouts sighted a small ship away off on the hori-



observed on our trip, to outwit the submarine menace.

Each of the ship's surgeons was the personification of politeness, offering us every aid, assistance, and advice. In their natty blue uniform, they looked quite picturesque against a background of the army khaki. The ship's officers also extended every courtesy and privilege, saying to us, in fact, "Gentlemen, the ship is yours."

All the officers, both army and naval, ate together in the dining-room, or saloon. Here, we had excellent meals served by colored waiters, who were enlisted men of the Navy. We had no difficulty in finding

zon, making unmistakable signals of distress. The escort was signaled. They signaled back for the troop-ships to lay to, and a warship cautiously approached, not knowing but that the call might be a ruse of some sort. It was discovered to be a small schooner blown off her course, her rudder gone, leaking badly, and her



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Brooklyn, N. Y., Y. M. C. A. Members Being Trained
for Red Cross Service in France.

pumps about worn out. So, the warship took the crew off and set fire to the wreck, so that it would not be a danger to navigation. Then we resumed our course. Each forenoon, the troops were ordered up to the upper decks by detachments and

great many of the men were seasick, still, this soon wore off. Fortunately, I myself was not seasick at all. At any time I felt at all squeamish, I took a few Abbott's antinausea tablets, of which I had brought a bottle, and am convinced that they helped; still, I can not give them all the credit, for, there were many officers and men aboard who took nothing but a physic and they also remained free from seasickness.

When we left the States, it was below zero weather, but, the first day out, we struck balmy weather, and it was great to sit out on deck in a steamer-chair smoking a cigar and thinking of our fellow practitioners back in the States struggling through the snow and ice. Like the Wandering Jew, on and on we go, day after



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Next—A Safety Shave.



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Motorcycle Ambulance.

marched around or doubletimed around or given setting-up exercises. Thanks to the weather being exceptionally fine practically all the way across, in addition to these exercises, the men kept in excellent health and spirits. True, the first few days out, a

day, not seeing a ship save our escorts, go to our berths at night after a last look at the phosphorescent wake of the vessel, and the ever vigilant lookouts, groping our way around the deck, where it was as dark as a pocket, all the lights being out, down a slippery companionway, to the lower deck, with its faint blue light burning, undressing in the dark. Mornings, shortly after daylight, we were aroused, by a knocking on the side of the staterooms, by a ship's orderly, with a "Time to get up." Just time to wash and dress, then "Breakfast is ready." Up to the dining-room, with its snowy tablecloth and its appetizing food and excellent coffee. Just about finish it and the clock is pushed up to correspond with the time we have gained, traveling toward Greenwich. Then sick-call is sounded, and we are in for another day of it. Church services were held the

two Sundays we were on board by the chaplain and were well attended.

What a thrill was felt by everybody when one morning we sighted the rest of our escort of warships, for, we felt then that our long trip was nearly over, but, also, that we were approaching the really dangerous zone. Fleet destroyers came upon us so quickly that they seemed to come up from the ocean itself. Like grey-



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Taking Care of the Men's Feet

hounds, they seemed almost to leap from wave to wave, now cutting across our bow, around our side they glided, around our stern and up to the bow again, literally running rings around us, as easily as if we had been standing still. They proved their worth, too; for, as we were almost in port, away off to one side we saw some streaks of foam on an otherwise smooth water. One of our escort made for these streaks at a tremendous speed, firing as it went, for, the streaks proved to be subs. Later, we were told that they had got them both with depth-bombs.

There was a cheer from thousands of throats when we dropped anchor in the mouth of the river among other ships, and, when the tide was favorable, we pulled up anchor and slowly made our way to the dock. There, the quaint buildings, with their foreign names, French soldiers in their horizon-blue uniforms, and rifles, with fixed bayonets, slung over their shoulders, guarding German prisoners, who were at work on the docks, the foreign tongue with which we were hailed by the boatsmen who were rowing their small boats along side, proved interesting sights. A dog on the wharf barked at us in English, and it sounded strangely good to hear it. Scat-

tered along the wharf, were American sentries and as we came closer we saw more American uniforms. The yellow flag of quarantine was run up to the masthead, the M. O.'s were instructed once more to inspect the men on board for venereal disease, and, after harbor regulations were complied with, the yellow flag was hauled down and the work of unloading began. Motor trucks took our stores and impedimenta to our camp, the men fell in in their detachments and marched up a few miles to a rest camp. We were here for but a few days, but, took the opportunity to change for French money whatever money we had with us. Then again we pack up, this time into a dinky little train for a day-and-a-half's trip into the interior. The French railway-cars are much smaller than ours, seeming almost like toys compared with our Pullmans. Officers traveled first-class, the men, third class. As there were no sleepers, we pulled the seats out and slept reclining, with our overcoats thrown over us. The first-class coaches were equipped with toilet-and wash-room, the third class were not, the men relieving themselves at regularly designated stops, so, I restrained my usual lavish habit of handing out compound cathartic pills to the men on sick-call.



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German Wounded Being Treated by British Doctors.

We passed through old villages, where sometimes the train would stop for several hours. Here, the men were split up into detachments, in charge of sergeants, and marched around for an hour's exercise. I, with the commanding officer and the interpreter, would visit the points of interest within short walking-distance of the train, the restaurants, where we ate many a good meal for a few francs, the old

Gothic cathedrals—wonderful from an architectural standpoint, inside, the enormous pillars, the vaulted roofs, the flagstone floor, their many altars, before which were offering-boxes, and into which we dropped a few coins; outside, were the spires, the Gothic doorways and windows,



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Advanced British Dressing Station in Palestine.

the old clocks. The streets were narrow; in most places we found bookstores, where we could buy war-copies of *The Chicago Tribune* and *The New York Herald*. Then into the train again and, on our way.

Arriving at our destination, we were assigned to quarters in an inland town, in an old monastery—a massive building, built about the seventh century, and, judging from its appearance, it will last at least another few hundred years. Over the doorway, there is an old sun-clock, the first I had ever seen. An iron rod projects out from the masonry, with a dial beneath it; as the sun moves around, it casts the shadow of this inclined rod on the figures, thus telling the natives the hour of the day. Inside this monastery there were broad stairways of stone or cement. We were quartered upstairs, the men in big squad-rooms, double tiers of bunks having been built to accommodate them, the officers, in smaller rooms adjoining. They were severely plain rooms, with high ceilings and barred windows, which at one time had been the abode of monks. There were four buildings here, arranged in a square, a church forming one corner or side. In the center of the four buildings, was a courtyard, where bushes and flowers were blooming. One room on the ground floor had been used by the French Infir-

ary. This we used for our infirmary. I, with two other M. O.'s from two other detachments of American troops, consolidated our medical supplies and held a combined sick-call. From a nearby American hospital, we procured additional liquid drugs and prescriptions, and such equipment as we were unable to carry with us. Thus we were able to handle the hundred and one little ailments that will turn up among several hundred men. The contagious and really sick patients were promptly sent to this same hospital.

Afternoons and evenings, I wandered through the town. The people of the town were very polite and showed us every courtesy. Prices had not as yet advanced,



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French Red Cross Workers in Winter, at the Verdun Front.

as they do in most cities and towns where troops are stationed. The people wear wooden shoes and make quite a clatter walking through the cobble-stoned streets. The children all gave us a military salute as we passed and say, "*Vive l'Amérique*." We salute and reply "*Vive la France*"—which pleases them immensely.

A French officers' training camp near us filled us with interest. Here, were mimic trenches, dugouts, bombproofs, and barbed-

wire entanglements. Here, were held sham battles that certainly were about as realistic as the real thing. The French, surely, have a splendid fighting-spirit. Here, one Sunday, I saw these French cadets play football, and finer specimens of physical manhood I have never seen.

I was here but a week, then was detached from my squadron and ordered to a base hospital. I left the squadron with sincere regret, as I had formed many firm acquaintances both with officers and men. With two other M. O.'s, I boarded a French train and started toward the base. We rode all night, reclining, as usual, on the cushions and covered with our overcoats. Next morning, we stopped over for four hours at a French city. We repaired at once to a hotel, washed up and had breakfast in this place, afterward wandering around the city. We saw the long houseboats on the river, on which the women of the district do their week's washing; passed over the old stone bridges spanning the river; viewed the statues of statesmen and warriors, a large French hospital for wounded; saw detachments of troops, coming and going, to all appearance, continually. We visited an old chateau of the seventh-century period, surrounded by what once was a deep moat, but, now is used as a garden. Piloted by a voluble French caretaker, we saw the old dungeons where the chains and fetters are still cemented into the walls; in another place, the bullet-holes in a wall where at one time firing-squads put the "finis" to condemned prisoners; up and down secret stairways, finally arriving at the topmost battlement. Here, on the very top, as an example of thrift or of war conservation, there was a small garden, kept by the caretaker, fully two hundred feet above the ground. From the top, we had a most wonderful panoramic view of the city. We reached the street entrance again by more devious passageways, gave our conductor a few coins and left, followed by her grateful "Merci, merci, messieurs." Then we returned to our hotel, and even in this period of food shortage we had a really

excellent meal for only four francs a cover.

After dinner, we walked to a tobacco-store, to get a cigar; for, unlike our American restaurants, the eating-houses here do not sell cigars, chewing-gum, and such. The tobacco-store sells tobacco only and the eating-houses sell food and drink only. In this city, I saw, for the first time, women operating both ends of trolley cars, driving and collecting fares, and on the train which we soon boarded to continue our trip we had a woman porter to handle our hand-baggage. Aboard our train, were also a number of French officers home on leave, and at every station, we passed troop-trains loaded with French soldiers, also on home-leave. Through the country, along both sides of the track, the spring ploughing was already going on, and this late in January. At stations where we would stop, on getting out to stretch our legs, we were gazed at with much interest by the people and the trainloads of French soldiers on the sidings, and we heard many whispered, "Americans". Evidently not many of our troops had as yet passed there.

We felt rather proud that our U. S. uniforms attracted so much favorable interest so far from home. Arriving finally at our destination, we alighted from the train, registered our names and our orders giving us the authority for being there with the American military police at the station, and surrendered our railroad-ticket to a railroad employe (by the way, it seems to be the custom here to give up your ticket when leaving the train) and passed out to the street. As I had been to this city once before, I had no difficulty in finding our way to a cab-stand and hiring an antiquated fiacre to take us to the American Hospital. We arrived just at supper-time and, fortunately, were met by the adjutant and shown to a seat in the mess-hall, where the working-force of the hospital (the medical officers and the nurses) were at supper. The following morning, we reported to the commanding officer and were assigned to duty.

ROBERT C. MURPHY.



Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

[Continued from June issue, page 477.]

I AM NOT a preacher, but a sermon I heard in a little village not long ago has prompted these lines.

The minister was tall and angular, of dark complexion and slightly bald, his hair being combed smoothly and skillfully in front of his ears. His long upper lip was smooth shaven, as were the somewhat cadaverous cheeks; the chin was concealed by an ample growth of coarse beard, the effect serving to give prominence to the straight, hard lines of the mouth. He announced the opening hymn, reading the first two stanzas with slow, peculiar unction:

Tremendous God, with humble fear,
Prostrate before Thy awful throne,
The Word unchangeable we hear,
Thy sov'rein righteousness we own.

'Tis fit we should to dust return,
Since such the will of God most high:
In sin conceived, to trouble born—
Born to lament, to toil, to die.

The choir executed this dirge in long metre, and, as the last doleful notes subsided, it was natural that the smitten hearts of the congregation should be sufficiently receptive to await meekly the impressions designed by the subsequent discourse.

The reverend gentleman arose solemnly, his countenance assuming a graver, more forbidding aspect, as he read the 26th chapter of Leviticus and then announced his text from Mark XVI, 16, "He that believeth and is baptised shall be saved; but, he that believeth not shall be damned," the closing anathema being fairly hissed at his auditors, as he leaned over the pulpit, with quivering beard and foreboding expression, as though he were cursing his congregation, rather than repeating Scriptures.

It occurred to me that this high priest of the revealed religion, the highest gospel of which is love of our fellowmen, would not be disheartened by the eternal perdition of certain members of the congregation, and

that possible salvation for all would be as serious a calamity as universal destruction; there was not a hint of a compassionate and loving Saviour—only the implacable wrath of a monstrous and vengeful deity.

Continuing, the preacher endeavored to impress upon the minds of his affrighted hearers the absolute certainty of future retribution, by reminding them of the burning tares, the casting away of bad fish; and, to urge a more personal terror, he dwelt with apparently grim satisfaction upon the unprofitable servant doomed to outer darkness, the foolish virgins shut out from the marriage-feast because they were too late, the everlasting misery endured when the wedding-garment was not at hand, the fig-tree blighted because of its barrenness, the unused talent, and so along. "Wide is the gate," he shouted, with awe-inspiring gesticulations, "and broad is the way that leadeth to destruction, and many there be which go in thereat; narrow is the way which leadeth unto life, and few there be that find it."

The closing words were uttered with a demoniacal screech—the climax of an ever-ascending voice—and the congregation shuddered with horror as the speaker's long arms waved aloft in the fury of his dire prophecy.

As he proceeded to depict in glowing, nay, seductive language the temporary allurements and attractiveness of the broad way, I could not but remark the graphic character of the scene portrayed and touches of youthful, even riotous life, too realistic to be ascribed to a vivid imagination alone. I listened the more attentively, therefore, as the preacher's harangue led him to delineate the awful punishment awaiting those who failed to take the narrow way, with all its devious, scarce penetrable windings, its midnight darkness of isolation, its withering despair. With fervent eloquence, the orator laid bare the inmost sufferings of

him who, yielding to temptation, sought relief from earthly troubles in indulgences, too surely to be followed by poignant regret and shame. This stern, narrow way—how eloquently he portrayed its course, marked ever and anon with sign-posts reminding the traveler of duties, *duties*, none of which were pleasant, but, inflicted by God, to purify His children, so that they might enter the heavenly kingdom after much tribulation.

Wo to him who for a moment, even, in the agony of spiritual torture, rebelled against the Master's scourge! Wo to him who, lured by dreams of rest and peace, succumbed to temptation—who in the extremity of his pain clasped to his bosom the mocking image of human happiness! Above all, wo to him who, seeking relief from earthly care and the solitude of Ishmael, in defiance of law and society, sought repose in the love of her for whom his hungry soul had waited in breathless prayer and longing, filling the empty niche in his lonely heart and answering his stifled cry:

No one is so bereft by fate,
No one so utterly desolate,
But, some heart, though unknown,
Responds unto his own;
Responds—as if with unseen wings
An angel touched its quivering strings
And whispers in its song,
"Where has thou stayed so long?"

For him—poor, deluded dreamer—not the chastest resolve, the warmest, noblest affection and self-sacrifice would answer in the day of judgment, but, only the reward of a common felon spurned by the Lord of Christian men and the good influence of churches? Who led the sentiment for liberty in this country before the shots were fired at Lexington and Concord and Bunker Hill? Who has led in every worthy movement but Christian men—Christians in the big sense?

Science, scholarship, brains will take care of the letter and the doctrine. Let us have now the full measure of the spirit and the life. Good citizenship is good Christianity, and good Christianity is good citizenship.

We should believe in humanity and in the moral relations between our lives and the lives of others. We have powers to be developed for noble uses. We should cultivate high ideals. The modern idea of religion is preeminently a social ideal, and it

must express itself in some social way. It inspires to united effort, and does not drive the individual into selfish isolation. It is well to be alone with one's soul at times, of course, to be much out of doors, among the immensities, to look beyond the horizon and past the things that are temporal and seen. But, oftener should the mind refresh itself among its kindred and have intercourse with great souls and strive in every way for higher things rather than for mere selfish pleasure. There is something in life besides pleasure and business. We should know how to live. The cry of today is for higher types of men; men fit to create a nobler, happier, healthier society. We either are here for no intelligent purpose at all or we are here to make another connecting link from the dying past to the living better and more beautiful future.

* * * *

Meats and Morbidity

In a western town that I used to know there was an entertaining though otherwise useless man who devoted his life to resting, living at the one hotel on terms of fraternity with everyone, indifferent to an account that he couldn't have paid, anyway. At the end of a year, the embarrassed landlord took him aside and said, with tact:

"Of course, I know you're good for what you owe me, Bill, and I'm not dunnin' ya'. But, it'd help out a whole lot if ya' could rattle up some of it today. So many eats and so few pays 'at I'm away behind with the butcher, an' he won't let me have no more meat 'till he gets some money."

"D'ya' mean to say he's shet down on ya' jest fer a little thing like that?"

"That's what."

"The Walla-Walla horse-thief! We'll jest show him. I'll stick by ya'. You tell him to go to heliotrope with his beef-critter stuff, and we'll worry through on vegetables."

This heroic course proffered possibilities, if tempered by judgment and a little knowledge of the chemistry of plants. Anybody can worry through on vegetables, with benefit—after a time, with entire comfort and, probably, improved health. In saying this, I do not postulate vegetarianism, which is a cult and, as ordinarily followed, a rather poor one. But, I do mean to say that flesh foods can be greatly reduced or

dropped out altogether, without ill results to general health. Here is the reason:

We require protein. Muscle and bone must be nourished. Meats convey the proteids necessary toward that nourishment, but, they are carried in more assimilable forms by such soft and clean foods as eggs, milk, and cheese. The products of poultry-yard and dairy, bulk for bulk, will do as much for us as meat in any form, do it better, and free us from that positive harm that follows the excessive use of meat.

Only a small part of the contents of meat gives us the aliment we want. The juices furnish proteids, the fibers do not; and meat is mostly fiber. To get proper nourishment into a vigorous body, five parts of meat must be chewed for the sake of one part of juice. Digestion of fiber imposes overwork on the whole digestive apparatus. It is extra duty, that must be performed to realize the value of the minor quantity. These waste foods create waste products, which have an unvarying tendency to clog the stomach, liver, kidneys, and lower intestines—to accumulate there and set up ferments of decay; to become poisons of insidious sorts, generating diseases that often are hard to get at. To eat meat freely, is, to invite autointoxication; eating meat carelessly and without an intelligent admixture of vegetable foods, insures it. To reduce the meat ration and increase the vegetable, is, to bring about a partial balance. To shut off meat and take our proteids in gentler and purer form, with the necessary hydrocarbons and those vegetables which carry the various salts necessary to perfect nutrition, is, to establish an actual balance and set up a firm state of health.

In these days, prejudice has no place, and habits can be viewed as subject to change and complete dismissal. We have come a long way out of the old and stupid belief that we are heirs to the appetites of generations gone before. It is not so. I make that statement broadly, and with emphasis. We inherit far more on what I will call the psychological side of our organisms than on the physical side. Someone has said that every man is an omnibus in which ride all his forebears, and in terms of character that saying comes pretty near to a solid truth. But, in physical habit, the force of inheritance is a movable or vanishable quantity.

Psychology is too vague as yet to deserve a place among the sciences. It handles its data awkwardly, like a short-fingered, nearsighted man sorting potatoes. It has reached back into the human mind far enough to discover that the direction of thought may be changed or determined by an exercise of will-power, but, it still is in the dark concerning the faculty that in turn sets the will-power in action. As yet, it is merely groping toward, but, has not touched, the real psyche. Its sincere but fumbling declarations or deductions are assumed to give scientific reinforcement to a body of quasi religious belief now common to intellects of the third to the thirtieth order, that mental contemplation or projection can govern and regulate the body and bodily functions; which would be important if, instead of glimpsing a truth, it were a truth. Still, it has, in one particular, done mankind a decent service. Whether by influence or through experience, we know that a candid state of mind once being induced, so that a fellow may reason reasonably with himself about himself, he can modify a habit, even though that habit be of the kind our forefather regarded as ineradicable.

Meat eating is a habit. It is readily subject to modifications. It can soon be driven out, should that expulsion seem desirable.

There is nothing to the contrary in the argument that we come of uncountable generations of carnivora—flesheaters. We retain the dog-teeth, the teeth of flesh-tearing animals, but, that does not mean that we are obliged to eat flesh, any more than our retention of a vestigial tail of the lower vertebræ means that we have to be monkeys, and govern ourselves as such. We do need the proteids that our merely animal (and nearer) ancestors extracted from flesh, yet, we are advanced far enough, both in physical organization and mental power, to know that those same aliments may be had from simpler and less wasteful foods, some of them vegetable, others animal products.

The lower planes of animal life are full of tragedy, necessary to the continuance of life itself. The creatures of the wild die murderous deaths, that others may live.

It is not so with us. We cling too closely to age-old ideas. When we come to think of it—or, rather, maybe, when we don't think of it—for no better reason than that

they are age-old. Mankind never advanced by hanging to useless customs or persisting in wrong directions or standing still. You can't make an ascent in a parachute nor a voyage in an anchored ship.

Benjamin Franklin was a most wise man, humane, sympathetic, and so far in advance of his day that we are only now catching up with him. This flesh-eating thing seemed wrong to him, not from the platform of animal-chemistry, but, as a matter of sentiment. It did not appeal to him as justifiable that man, the apex of life here, should eat his younger brethren or that any sentient being should die to furnish man with food. But, during the voyage that resulted in his discovery of the cause and nature of ocean currents, he saw the people of the deep devouring each other with avid freedom and he said to himself that, if they could do that, he could eat them, and, so, cut fish out of his abstentions. He might have had a further reason if he had looked a little farther. Fishes yield albumen and fat, both valuable; and fish-meat is almost nonfibrous, easily digested and highly assimilable.

Whatever sentimental considerations may affect the question of meat derived through the slaughter of land-animals, there is none when it comes to sea-foods, for, the whole life-business of a fish is, to eat and reproduce, and its death, when it is drawn from the water, is a rapture of intoxication. The fish is drunk with a sudden excess of oxygen. That is the reason it dies flapping. It is the greatest thing that ever happened in its life, if only it had sense enough to know it—which it hasn't. Eat your fish, therefore. It comes to your table by a route of exquisite happiness, and its flesh is good for you.

Eat your fish and beat out your butcher. There is unconscious merit in the lately instituted movement to boycott the butcher-shop in favor of the fish-market. Many of our food-fishes furnish as good meat as ever came out of pasture or sty, some of them better. Moreover, they respond with surprising readiness to variations in methods of cooking. I have had fish-dinners of many courses, that offered as much variety as course-dinners of the regular kind, where flesh and fowls were served. This fish-idea is worth looking into and following up. If fish were substituted for flesh, the cost of living, now so grievously

complained of, would go down, while the standard of health, I am sure, would go up. Eggs, milk, fish, with a variety of root-foods, garden-vegetables, and fruit, make an efficient, satisfying, and totally beneficial diet, with no morbid consequences.

The variety possible in such foods really is surprising. It offers a wider range of change and choice than any where meat is a staple. No two meals need be alike in any one week, and every one be good. I mean, taste good as well as be good for the body. And they will be cheaper by anywhere from a fourth to a half.

None of this is mere theory. It is practical advice, advice that is sanitary, in the better meaning of prevention. Disease evolves from a diet too largely made up of meats—"solid food," as meat is called, through a mistake of quantity or heaviness for solidity. Some diseases, like that old plague and outlaw, rheumatism, are actually promoted by animal flesh. It is most emphatically not so with such a course of feeding as that suggested here.

We need, broadly speaking, protein and hydrocarbons at the base of our nourishment. We need these natural chemical compounds.

We can get our animal proteids most abundantly, and with least wear upon our inner works from eggs, milk, cheese, butter, and fish. These are readily transmuted into muscle.

We can get our flesh-forming aliments, those that make fat or weight, the hydrocarbons, from beans, peas, butter, peanuts, nuts, olive-oil, cream, chocolate, sugar, honey, confections, bread and other cereal products, potatoes, bananas, figs, raisins, and many other vegetable products.

We can get phosphorus and mineral salts into our systems if we eat starchy foods, especially cereals—wheat, rye, oats, barley, corn, rice, etcetera.

There is no need for reducing the pleasures of the table in following this line of feeding. Here is a dietary course easily providable, thoroughly sound, as grateful as any, and considerably less expensive (if that means anything—what?) than any that includes meats.

Try it. You will like it. You will feel better. You will save money by it. You will have a clearer mind in a sounder body. You will be a more efficient unit in the population where you live.

[To be continued.]

Among the Books

"MEDICAL WAR MANUALS"

Lessons from the Enemy: How Germany Cares for Her War Disabled. By John R. McDill, M. D. Illustrated. Philadelphia: Lea & Febiger. 1918. Price \$1.50.

Laboratory Methods of the United States Army. Compiled by the Division of Infectious Diseases and Laboratories. Office of the Surgeon-General, War Department, Washington, D. C. Illustrated. Philadelphia: Lea & Febiger. 1918. Price \$1.50.

These are Nos. 5 and 6 of the "Medical War Manuals" authorized by the secretary of war and under the supervision of the surgeon-general and the Council of National Defense. War Manual No. 5, describing how Germany cares for her war disabled, is written on the basis of personal observation in Germany during 1916; these observations being greatly aided and facilitated by the authorities.

In analogy to the method of treating infected wounds evolved by Dakin and Carrel, a German surgeon, Dr. Wm. Mueller, has observed remarkable results in 327 cases of the severest types of wound infection from "a new method of treating severely infected wounds without the use of cotton." It is not quite clear just what Doctor McDill means when he describes the solution employed as being made by dissolving 1 kilogram of "kalk" (chloride of calcium) in 8 liters of water. "Kalk" is calcium oxide, while "geloeschter kalk" is calcium hydroxide. Chloride of calcium would not liberate any chlorine, while chlorinated lime would; but, neither of these two are designated as "kalk." It is to be hoped that the author will settle this point in a new edition of his book. Probably, though, chlorinated lime is meant.

The manner in which this solution is employed is similar to that for Dakin's solution. Deep wounds are freely irrigated, under pressure, with the solution contained in an irrigator hung some 6 to 9 feet high, the finger assisting in seeking out all the recesses; tubes and gauze lightly packed are left in the wound depths, and over all

large ordinary sponges saturated with the solution are placed, and then covered with oil-silk held in place by a bandage. Every two hours, the sponges are squeezed, through the dressing, in order to drench the wound surfaces. The sponges are boiled daily.

War Manual No. 6 constitutes a handy guide for laboratory-methods as in use in the United States Army medical service. The methods cover, not only the examinations of pathological specimens, but, also the sanitary examination of milk, water, and other articles of food. These methods may be accepted as the best at present available.

Both these volumes, uniform with the others of the series, are well printed and illustrated, and attractive in appearance.

McCOMBE AND MENZIES: "MEDICAL SERVICE AT THE FRONT"

Medical Service at the Front. By Lieut-Col. John McCombe, C. A. M. C., and Capt. A. F. Menzies, M. C., C. A. M. A. Illustrated. Philadelphia: Lea & Febiger. 1918. Price \$1.25.

"The regimental medical officer is a person of protean pursuits. His interests reach from the cleanliness of the cook's hands to the care of wounded under fire. He legislates equally on water chlorination or trench-fever. He replies to queries ranging from 'How many men with itch reported at sick-parade?' to 'Considering the number of gas-shells that fell around trench 3 this morning, is it safe to relieve the company tonight?' . . . On analysis, his duties, like all medical activities, fall under either of two headings, the one preventive, the other curative."

This quotation from the text of this little volume indicates the scope of its subject-matter, which deals with the duties and activities of the medical officer at the front. It gives account of an amount of work accomplished by medical men that is astonishing in its diversity as well as in its volume, and it emphasizes the urgent neces-

sity for thorough and detailed training of medical officers before they are sent to the front. For, it is quite impossible for any civilian medical man to step into this work without previous special preparation; a further reason why medical men contemplating entering the medical service should do so at as early a period as at all possible.

Mechanically, the volume is uniform with the "Medical War Manuals" issued by the same publishers. Its study is full of interest and highly informative.

MOYNIHAN: "WAR SURGERY"

American Addresses on War Surgery. By Sir Berkeley Monynihan, C. B., Temporary Colonel, A. M. S., Consulting Surgeon, Northern Command. Philadelphia and London: The W. B. Saunders Company. Price \$1.75 net.

This little volume of 143 pages contains various papers read by the author in Chicago and elsewhere in the United States, during October and November, 1917. The titles are as follows: The Causes of the War. Gunshot wounds and their treatment. Wounds of the knee joint. On injuries to the peripheral nerves and their treatment. Gunshot wounds of the lungs and pleura. The dedication is, To G. W. Crile. Needless to say, American surgeons, and also physicians, are certain to be interested in these addresses by one of the foremost surgeons of the day, dealing as they do with the wonderful development that surgery is experiencing at the present time.

GOODNOW: "WAR NURSING"

War Nursing. A Textbook for the Auxiliary Nurse. By Minnie Goodnow, R. N., War Nurse in France. Illustrated. Philadelphia and London: The W. B. Saunders Company. 1918. Price \$1.50.

This is a complete textbook for the inexperienced auxiliary nurse showing her how to care for a ward of wounded men from arrival to dismissal. It introduces the reader to actual conditions, teaching how best to meet them. The dedication is, to all nurses, trained or untrained, of whatever country, who have served their nation in the great war. The author's acquaintance with war surgeons and nurses who have served in various parts of the war zone, together

with her own experience in France, with the Harvard Unit, with the auxiliary hospital at St. Valery-en-Caux, and with the American Red Cross Hospital of Paris, has given her a wide opportunity for knowing war conditions. Her instructions for the guidance of the untrained nurse, who is anxious to do her work well, are simple and concise while numerous good illustrations serve to make them even clearer. Altogether, this little book strikes us as a very serviceable one.

"FRAMINGHAM MONOGRAPH NO. 1"

Framingham Monograph No. 1. General Series. 1. The Program. Framingham Community Health and Tuberculosis Demonstration of the National Association for the Study and Prevention of Tuberculosis. Donald B. Armstrong, M. D., Executive Officer. Community Health Station, Framingham, Massachusetts. April, 1918.

This is publication No. 1 of the general series contemplated by The National Committee in charge of the Framingham Community Health and Tuberculosis Demonstration and deals largely with the program of the experiment. This little pamphlet makes excellent reading, and all physicians who are interested in the campaign against tuberculosis, as well as in the subject of health-work (and every physician should be so interested), are urged to communicate with Dr. Donald B. Armstrong at Framingham, Massachusetts, in order to secure copies of these publications. More regarding the undertaking has been said in an editorial article in this number, to which the Reviewer refers.

STITT: "TROPICAL DISEASES"

The Diagnostics and Treatment of Tropical Diseases. By E. R. Stitt, A. B., M. D. Second Edition, revised and enlarged. With 117 illustrations. Philadelphia: P. Blakiston's Sons & Co. 1917. Price \$2.00.

Doctor Stitt is one of the foremost American authorities on tropical diseases, a teacher of long experience, at the U. S. Naval Medical School, in Washington, D. C., and a favorite author on his particular lines of study. Since the peculiar characteristics of tropical diseases render recourse to laboratory examinations even more necessary for diagnosis than is the

case in the diseases commonly observed in temperate regions, the author's great familiarity with laboratory methods is of decided service in the diagnostic considerations. Stitt's manual of tropical diseases is well adapted for easy reference and contains all important information required for the study of these diseases.

CHEKHOV: "HUMOROUS TALES"

Nine Humorous Tales. By Anton Chekhov. Translated by Isaac Goldberg: Henry Schnittkind. Boston: The Stratford Company. 1918. Price 25 cents.

This little book is one of the Stratford Universal Library in which the publishers have undertaken to reproduce the best literature of the world in small volumes selling at a low price. Each book contains an authoritative introduction that adds greatly to the interest of the contents. So far, stories have been published, in this series, by Gorki, Artzibashef, Tolstoi, de Maupassant, Balzac, and several other noted authors. The volumes are well printed and attractively bound, the entire undertaking being one for which the publishers deserve great credit.

It is of interest to physicians that the author of the nine humorous stories contained in the volume before us was a physician by training, although he was a writer by preference. His style, especially in his humorous tales, has been compared with that of O. Henry, and, certainly it is replete with human interest. The Reviewer has read these little tales with much enjoyment and hopes to be permitted to see the other volumes of the series also. The book can be cordially recommended for enjoyment during a leisure hour.

FOUST: "WITH GOD AND THE COLORS"

With God and The Colors: Prayers by a Mother for Her Soldier Boy. By Mrs. Leila Atwood Foust. Philadelphia: The Vir Publishing Company. 1918. Price 50 cents.

This little volume is another evidence of the trend becoming increasingly evident toward a deeper religious feeling. We do not know whether church-memberships are growing nor are we familiar with the results claimed by Billy Sunday and other evangelists, but, we do know that many

people are becoming deeply religious and are thus finding strength to bear the burdens and the trials that are consequences of our participation in the war.

Personally, the Reviewer does not like set and formal prayers. He does not even admit that prayer, as such, necessarily must be formulated in definite words and sentences. Yet, the appeals to God that are printed in this little book can not but touch one very closely, and we believe that many people who may read them in the prayer spirit will themselves derive benefit, even if they do not do so with the deliberate purpose of praying.

GEIGER: "BONE SURGERY"

Modern Operative Bone Surgery. With Special Reference to the Treatment of Fractures. By Charles George Geiger, M. D. With 120 illustrations. Philadelphia: The F. A. Davis Company. 1918. Price \$3.00

Unquestionably, one of the remarkable instances of progress in modern surgery is, the improved method of treating fractures by the open method which, while not original with Arbuthnot Lane, yet owes its present popularity largely to his efforts. The author of the volume before us ably vindicates the method by referring to the occurrence, for instance, of scoliosis, developing after a common fracture of the femur treated in the usual way, but in which slight shortening had followed union. A shortening of 3-4 to 1 inch, he says, will cause joint-strain resulting in the development of structural deformity. Here there is a strong argument in favor of his assertion that all fractures in which perfect union can not be secured by the closed method, should be treated by the open method and, if necessary by means of autogenous bone-grafts or inlays.

Doctor Geiger's book is devoted mainly to the subject of plastic bone surgery, including that of bone grafting which, he claims, should always be done with autogenous material in order to be safe and successful. In contrast, however, to his claim that no similar work on the subject has been published up to the present time, the Reviewer has before him Fred. H. Albee's beautiful work on "Bone-Graft Surgery" of which, of course, the author has knowledge. The discussions of this mod-

ern surgical procedure are of intense interest, not only for their importance in the rehabilitation of the injured, but also on account of its relation to questions of embryological, physiological and other processes upon which its success depends. Doctor Geiger speaks on the strength of much personal experience, and the technic outlined by him, if carefully followed, will ensure success. Therefore, his book is of service to orthopedic surgeons, and also to general surgeons who have in mind the possible distant results of faulty bone-union.

While mechanically the book is well printed and excellently illustrated, we regret occasional inaccuracies in the language which is an example of that linguistic abomination, viz., "medical English". We wonder why it is that American physicians do not take more trouble to express themselves in language that is in keeping with the dignity of their subjects. Surely, members of one of the learned professions should, at least, write correct English, and should arrange their arguments in logical sequence.

DAWSON: "CAUSATION OF SEX"

The Causation of Sex in Man: A New Theory of Sex, Based on Clinical Materials. Together with Chapters on Forecasting or Predicting the Sex of the Unborn Child and on the Determination or Production of Either Sex at Will. By E. Rumley Dawson, L. R. C. P., M. R. C. S. New York: Paul B. Hoeber. 1917. Price \$3.00.

The author of this little book of 219 pages of text arrives at the conclusion that a male fetus results from the fertilization of an ovum that came from the right ovary, while a female fetus results from the fertilization of an ovum coming from the left ovary. It is on this finding that he bases his theory of sex determination, in which he insists, above all, that the male progenitor has nothing whatever to do with the matter.

Although much clinical and statistical material is adduced by the author in support of his theory, somehow it fails to be convincing. Not that we can propose

something better in its place, but, the fact of the matter is, it is, by no means, certain that this problem can be solved at all. We are reminded of some recent findings by Doctor Apert, of the Andral Hospital, in Paris, who concluded that in women with adrenal hyperfunction male characteristics developed. Upon this fact, Robinson based certain experiments, in which he injected an active extract of suprarenal capsules (adrenalin) into female guinea-pigs, and these, after impregnation while undergoing this treatment, gave birth to 25 males out of 30 offspring. Conversely, injecting guinea-pigs with choline, which is looked upon as a physiological substance antagonistic to adrenalin, Robinson obtained 90 per cent of females.

These experiments would point, in contrast to the observations of Dawson, to a decided influence of the internal secretions upon the determination of sex. However, if all that has been written on the subject is examined critically, the conclusion is unavoidable that there is—fortunately, no doubt—no certain means of making sure of having a son or a daughter at will.

DE NORMANDIE: "OBSTETRICS"

Case-Histories in Obstetrics. Groups of Cases Illustrating the Fundamental Problems which Arise in Obstetrics. By Robert L. DeNormandie, A. B., M. D. Second edition. Boston: W. M. Leonard, 1917. Price \$4.00.

The Case-History Series, which originated a few years ago in Boston, embraces six treatises on as many special fields in medical practice, the subjects being taught by discussions of actual case-histories. The method is an excellent one and the six volumes have deservedly found much favor with physicians. The present volume, now in its second edition, presents histories of cases illustrating the various phases and problems of pregnancy, labor, and the lying-in period. The cases are well selected and the discussions are very instructive. These books should be studied by general practitioners.



Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

Queries

QUERY 6387.—“Phenolphthalein Test in Nephritis.” C. O. R., Washington, asks us to describe the phenolphthalein test for renal permeability and give directions how to prepare the solution.

Order from 300 to 500 mls of water to be taken one-half hour prior to making the test. Empty the bladder with a catheter, then inject, subcutaneously, in the upper arm, 6 milligrams of phenolsulphonephthalein, neutralized with sodium hydroxide, in 1 mil of water. (Socalled “sterules” of this strength are offered.) Allow the urine to drain through a catheter into a test-tube containing 1 drop of 25-percent sodium-hydroxide solution and note the time of the appearance of the first pink tinge. Remove the catheter and determine colorimetrically the amount of the chemical excreted in the first and second hours. Normally, the phenolphthalein appears in the urine in from five to eleven minutes, and in the first hour from 38 to 60 percent is voided, while in the second hour from 22 to 25 percent is excreted. Thus, the functioning power of the kidneys can be determined.

In severe acute nephritis, the renal permeability is markedly decreased; also in chronic interstitial nephritis. The delayed appearance and especially the diminished excretion in the 2-hour period are more accurate indications of functional derangement than is an estimation of total solids or nitrogen.

It is reported that the rate of excretion is of less importance than the relative amount excreted by each kidney and the fact whether the entire amount injected is excreted.

The urinary pigment may be overcome by precipitating with lead acetate. Some observers set three hours as the time; 60

percent of the chemical should be excreted in this period.

QUERY 6388.—“Neurosis of Head of Obscure Origin.” P. D., Georgia, has a patient who has been the rounds without any doctor being able to alleviate or even to locate his trouble. All agree that it is a “neurosis,” but, that seems about as far as their diagnosis takes them. The patient is a man forty-three years of age. He has a good appetite, sleeps very well, evacuates the bowels every day. His urine and blood pressure are normal. His temperature always is normal, pulse is 60—just what both always have been. His urine and blood have been tested time and time again, but, with negative results. The patient says he never felt better in his life than he has the last year, except for the following symptoms, of which he complains:

“A little over a year ago, when he came in from driving his automobile, the back of his neck hurt him (at about the fifth cervical), then two or three months later, his head started to hurt—not a sharp pain nor was it a dire pain, but, he described it as if someone were holding a heavy weight against his head. It does not pain, but, feels full, as though a band of iron were about the head and the head were swelling within, the sensation sometimes amounting to a vertigo or, rather, a stunned feeling. No other part of the body is affected, it seems, but, the last three or four months it has been getting much worse. He says he now finds much trouble in writing. If he writes but one letter, he feels very much the effect; also he finds himself with his jaws very firmly closed, in fact, using much pressure. He states that that is just the feeling he has all the time—that his jaws

had been firmly fixed for a long time and that he could not relax.

"There was, for the first six months, no trouble on first arising in the morning. It would start about noon. The last three months it is always better when he first gets up, but, it starts in to be more troublesome as the day goes on and by night it becomes very troublesome. He seems to be getting worse every month. He has taken all kinds of medicine, including arsenic, iodides, tonics, intestinal antiseptics, reconstructants, but, so far nothing has touched the right spot. You see, it is no one part of the head, but, the whole head and neck feels as though it were bound up with bands of iron and his jaws were tired out from being set in one position, and that he can not relax."

The patient never smoked or drank and, so far as he knows, never had any disease of any kind.

Examination of a specimen of the 24-hour output of urine did not prove particularly informative. There was no evidence of intestinal fermentation, while elimination was practically normal. A small amount of sugar was found, but, certainly not sufficient to account for the symptoms enumerated, though it must not be forgotten that just such conditions have been observed in diabetes mellitus, and that this specimen of urine may not have been representative. Under the circumstances, it would be well to have an examination of the urine made every ten days or two weeks for the next month or two. This may be merely a cyclic glycosuria; on the other hand, it may be an oncoming diabetes mellitus.

A very careful test of the reflexes—both deep and superficial—should be made, and the electrical reactions be ascertained. Take special pains to exclude any possible subluxation of the vertebræ. Ascertain, also, wherever areas of anesthesia or hyperesthesia exist along the spine. The fact that the symptoms first appeared after the man came in from driving his automobile (such procedure frequently being accompanied by strain or prolonged assumption of unnatural position) is suggestive. Try general rotation of the head, extension, side-to-side movement. The jaw reflexes, in this case, are of special importance.

The present writer would look very carefully into the sexual life of this patient. He

would—temporarily, at least—employ massage, the high-frequency current, and suggestion. Alternate hot and cold spinal douching may prove helpful.

QUERY 6389.—"Precocious Coitus, Puzzling Pregnancy." W. E. A., Texas, desires the counsel of the editor and readers of CLINICAL MEDICINE in the case of a woman, twenty-two years old, who says that when she was eight years old she commenced to cohabit with a playmate and that they continued almost daily until she was fourteen years old. "At that time, she and the boy were separated and she has not seen him since. Up to that time, she had never menstruated, but about eight months after their separation the menses set in, and for the next eight years she was perfectly regular. Then she indulged again (this time in a legitimate way) and four days afterward her "period" came on again (as she thought), which was only two weeks after her last menstruation. However, on removing her napkin, she heard something fall on the floor, and found a perfectly developed fetus about an inch and a half or two inches long. She affirms that she had not had intercourse with any man from the time of separation from the schoolboy until the time mentioned above, that is, eight years, and that this fetus was passed within four days after the latest intercourse." An explanation of this peculiar occurrence is sought.

We have given the facts presented in your very interesting letter most careful consideration. If the fetus still is available, we suggest that you forward it to a competent pathologist for examination. At the same time, if it was expelled recently (and we gather from the chronological data that it must have been), a careful examination of the woman might prove informative.

We are, of course, compelled to arrive at two conclusions, namely: (1) that the woman's story is correct and she carried a lithopedion for eight years, expelling it after coitus with a vigorous adult male, or (2) that in a fit of absentmindedness she had connection in the regular way before the cohabitation "four days prior to delivery." We are, of course, unable to explain how a girl of fourteen could become pregnant eight months before the appearance of the menses. But, for that matter, we do not quite realize how a girl of eight could co-

habit, with any degree of thoroughness, with a boy of about the same age.

Upon general principles, we feel inclined to think that "all the truth has not been told." You say, "the fetus was fully developed, yet, but one inch and a half to two inches long." This would lead to the supposition that mummification had occurred. However, as you will readily comprehend, we must have more light before expressing an intelligent opinion. Try and examine your patient—but, do so in the presence of a reliable third party.

QUERY 6390.—"Urethral injections of Silver Iodide." W. E., Texas, asks: "Is silver iodide employed to any extent as an injection in gonorrhea? If so, what is the average strength of solution used?"

We believe that silver iodide is comparatively little used by modern genitourinary specialists. A suspension of the powder has been recommended as an injection in urethritis and, when used for such purpose, is generally prepared extemporaneously. Wilbert, in 1906, recommended this formula: 2.2 Grams of silver nitrate is dissolved in 50 mls of mucilage of acacia and 45 mls of water, and to this is added 2.2 Grams of potassium iodide, dissolved in 50 mls of water and thoroughly shaken. Such a suspension is procurable under the trade-name of silvodide.

QUERY 6391.—"Sclerosis of Corpora Cavernosa." W. J. H., Arkansas, describes the case of a hard working farmer, fifty-six years of age, suffering from progressive hardening of the corpora cavernosa, beginning three years ago. "The hardening began just behind the glans penis and has continued back toward the belly, until it now covers almost the entire organ. It does not trouble him much in the daytime; however, at night, the penis will become erect, and then rises almost straight up, and he has to get up frequently to urinate. It seems that the urethra stretches while the corpora do not, and that causes the organ to bend in an acute angle, thus preventing sexual intercourse." Our correspondent is desirous of knowing whether there is any remedy, besides amputation, for this condition.

We regret to say that no form of treatment is likely to benefit your patient, since his condition is consequent upon the de-

velopment of a fibrous mass in the erectile tissue of the corpora cavernosa. As a rule, this affection arises insidiously, without any apparent cause, and any portion of the cavernous body may be involved in the process.

The masses may be unilateral, bilateral or multiple. Usually there is a single growth, situated near the dorsum of the penis. As the mass develops, distortion and deformity of the organ occurs and it tends to curve toward the abdomen or to bend at right angle or in the direction of the affected side. Frequently the discomfort thus produced is the only symptom, although pain may be present in the incipient stage and generally is experienced in long-standing cases when turgescence occurs. Sooner or later organic impotence develops.

Fibrous sclerosis of the cavernous bodies, or corpus spongiosum, usually appears between the ages of forty-five and sixty, and the condition is not as rare as might be imagined.

QUERY 6392.—"Onychotrophia, Pruritus of Pregnancy." H. S. B., Pennsylvania, has under treatment a 10-year-old girl, who has toe-nails that are "soft and scaly." The big toe and three outer toes on both feet are affected. The nail on the second toe is normal. Her feet were frostbitten about three years ago and the trouble has existed since that time. The nails grow out and fall off.

2. "Woman is pregnant for the sixth time. As usual with her, between the fifth and sixth month, a pruritus started that bothers her so much she can not sleep. What can be done to relieve this condition?"

Atrophy of the nails (onychotrophia) often proves extremely rebellious to treatment, especially where, as in this instance, the condition results from some inflammatory condition of the matrix, following trauma or infection.

It is, of course, impossible under the scope of a communication of this kind to discuss at length the etiology and pathology of this atrophic condition. Briefly, however, it may be stated that either atrophy or hypertrophy may coexist with the various inflammatory and, especially scaly skin diseases. Other causes are: constitutional diseases, nervous disorders, traumatism,

vegetable parasites and others, while heredity is a demonstrable factor in some cases.

In this particular instance, we should conjecture that nutritive disturbance of the matrix is responsible for the imperfect nail formation. Under the circumstances, we should be inclined to give the child small doses of arsenic, with the nucleinated phosphates, say, two tablets of nucleinated phosphates three times daily between meals, and arsenous sulphide, gr. 1-64, after the two principal meals of the day, for ten days; then rest for three or four days, and repeat.

It might be an excellent idea to apply some mild disinfectant to the parts each night, then to envelope the end of the toe with a strip of gauze covered with borated vaseline.

If the child is thoroughly healthy in every way, and provided she can be kept out of mud and other undesirable dirt, it might be an excellent idea to let her run barefooted for several hours each day. Under any circumstances, be very sure that she wears only light, perfectly fitting shoes and, if there is any perspiration of the feet, to have them bathed two or three times daily, then dusting with some mild astringent powder. This, however, should not be applied to the nail-bearing area.

Before we can prescribe intelligently for the case of pruritus, we must have a clear idea of the condition of the body-chemistry. In these cases, however, thorough elimination—renal, dermal, and intestinal—usually is essential. As you are aware, the pruritus of pregnancy sometimes proves intractable; still, the present writer has, in several cases, managed to control it within a few days by applying a well-fitting abdominal supporter and giving very small doses of blue mass and soda every second or third night, and equally small quantities of sodium bromide twice daily for a week or so. Daily sponge-baths with epsom-salt solution are extremely useful. As a matter of course, the patient should be carefully dieted.

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 QUERY 6393.—“Nuclein in Tuberculosis.” D. H., Colorado, writes: “I am desirous of obtaining information regarding nuclein and its use in combating disease,—especially tuberculosis. I understand that nuclein had been used with great success abroad, but, have no idea to what extent it has been employed in this country. In

what respect does ‘protonuclein’ differ from nuclein (Abbott)?”

For information concerning nuclein, we refer you to various volumes of “Merck’s Annual Report,” 1914, and earlier, in which the current literature is excerpted. A very good article was published by W. Sanders, in *The Kentucky Medical Journal* for June 1, 1916, and reprinted in this journal in September, 1916, page 757. The files of this journal contain many references and original articles on nuclein.

Fox and Lynch, in *The American Journal of Medical Sciences* for April, 1917, page 571, have a paper on the effect of nuclein injection upon the leukocytes of dogs; while C. A. Neymann, in *The Bulletin of Johns Hopkins Hospital*, or April 1917, page 156, has one on changes in the blood-picture after nucleic-acid injections.

Dr. C. F. Read, in *The Medical Record* for January 15, 1916, page 342, deals with nuclein treatment of dementia præcox. B. D. Brooker, in *CLINICAL MEDICINE* for 1915, page 76, has one on nuclein in cancer. Nuclein in dementia præcox has been mentioned notably by Bayard Holmes.

As for the employment of nuclein in tuberculosis, there is a paper by Vaughan in the “Transactions of the Illinois State Medical Society,” 1894, page 97. Edgar P. Ward has an interesting paper on the intravenous use of nuclein in *The Medical Record* for March 26, 1910, page 528. Achard and Redford published an article on the use of nuclein-solution in surgery, in *The New York Medical Journal* for October 14, 1911, in which the most important literature is abstracted.

In tuberculosis, as in all other diseases, nuclein does not exert a specific, but, a general effect. By increasing the number of leukocytes and thus by making available in a greater degree all those protective substances that may be elaborated by these cells—according to the view of Metchnikoff and others—the organic resistance to infectious diseases, and also the power of cell repair, is enhanced, and in this manner the organism is enabled the better to overcome disease.

As to the difference between protonuclein and nuclein (Abbott), the principal one is that of origin, protonuclein being of animal origin, derived from the lymphoid and glandular structure, while nuclein (Abbott) is obtained from the germs of wheat, thus being a vegetable nuclein.